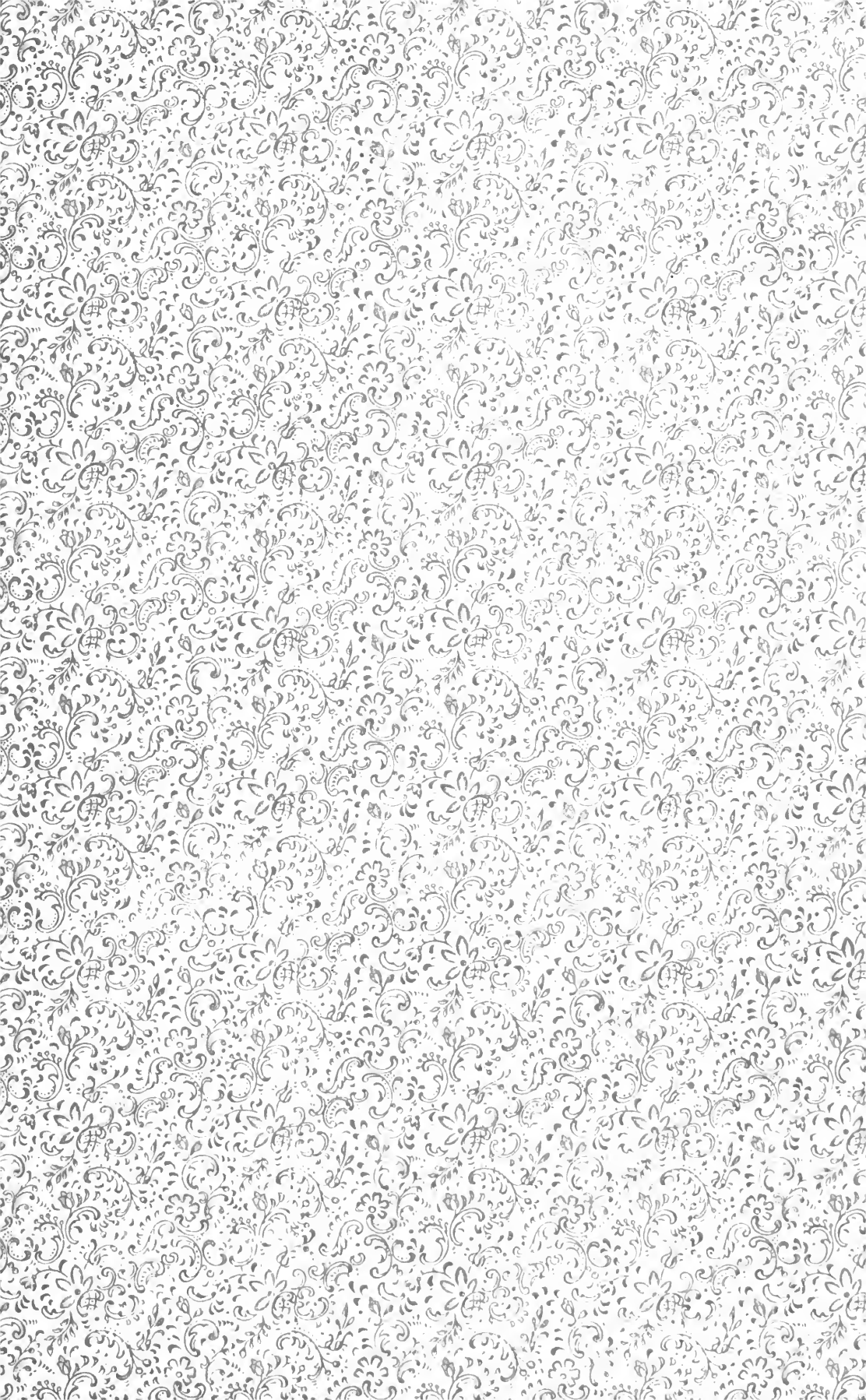


ANNUAL REPORT  
OF THE  
CITY ENGINEER



TORONTO  
1903









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*Mr.* .....

WITH MR. RUST'S COMPLIMENTS.





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Pol. Sci  
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Toronto Water Board

# ANNUAL REPORT

OF THE

# CITY ENGINEER

OF

# TORONTO

FOR

# 1903.



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# TORONTO.

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**TOPOGRAPHY.**—The City of Toronto is situated upon the northern shore of Lake Ontario, about forty miles easterly of its western terminus. It lies in latitude  $43^{\circ} 39' 10''$  north, longitude  $79^{\circ} 23'$  west, on a plateau gently ascending north for a distance of three miles, where an altitude of about 220 feet above the lake level is reached. It extends about eight miles along the lake, and is generally level, with slight depressions at points where minor water courses previously existed. The harbor is formed in front of the City by a sandy island, which lies to the south at a distance of about a mile and a half.

Toronto is the capital of the Province of Ontario, and in it are situated the Provincial Parliament Buildings and Government House, the residence of the Lieutenant-Governor of the Province.

## STATISTICS.

**AREA.**—The area within the City limits, not including the portions of the City land covered by water, is 17.17 square miles.

**POPULATION.**—The population of the City is about 250,757.

**PUBLIC STREETS AND LANES.**—Within the City limits there are 265.260 miles of streets and  $84\frac{1}{4}$  miles of lanes, of which 185.870 miles are paved, and 79.39 miles unpaved.

## PAVEMENTS AND ROADWAYS.—

Asphalt.....	46.44 miles.
Cedar block.....	60.73 “
Brick .....	14.24 “
Macadam .....	57.18 “
Wood on concrete .....	0.26 “
Stone and scoria block .....	1.15 “
Gravel .....	5.87 “

## SIDEWALKS.—

Stone flag.....	7.821 miles.
Concrete .....	115.415 “
Brick.....	3,195 “
Wood .....	280.000 “

SEWERAGE.—The City is drained by what is known as the combined system of sewers, and there are 237.98 miles of sewers.

WATER WORKS.—The Water Works system is owned and operated by the City, the supply being obtained from Lake Ontario by gravity to the Main Pumping Station. The supply is pumped direct into the mains, the surplus going to Reservoir, which is situated north of the north City limit, at an elevation of 216 feet above the level of the Lake. Cost of system to date, about \$4,000,000.

STATIONS AND ENGINES.—

*Main Pumping Station :*

No. 1	Engine,	4,000,000	gals. capacity, 24	hours,
" 2	"	8,000,000	"	"
" 3	"	8,000,000	"	"
" 4	"	10,000,000	"	"
" 5	"	10,000,000	"	"

*High Level Pumping Station .*—Two engines with a total capacity of 6,000,000 gallons in 24 hours.

*Island Pumping Station.*—One engine, 500,000 gallons capacity in 24 hours.

266.955 miles of water mains.

48,529 water services.

3,139 street hydrants.

2,476 valves.

1,844 meters in use.

WATER RATES.—Average schedule, 2 2-5 cents per 1,000 gallons, and by meter, 10½c. per 1,000 gallons.

42,000 water takers.

Pressure—Domestic, 22 to 80 lbs.; Fire, 75 to 80 lbs.

Average quantity pumped in 24 hours, 23,933,847.

Water supplied annually, 8,735,658,003 gallons.

Fuel used—soft coal screenings.

Cost of coal during 1903, \$58,356.17.

General receipts, constructing and moving services, etc.....

\$ 15,730 59

Revenue collected in 1903 by schedule rate .....

174,099 16

" " meter rate .....

152,642 60

Charges made against different branches of City service

for water used .....

55,240 00

Total .....

381,981 76

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---

Operating expenses, including cost of collecting rates and debt charges .....	\$428,064 12
House services and pipe laying .....	52,911 93
Total.....	<u>480,976 05</u>

---



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## FIRE PROTECTION.—

- 196 officers and men in brigade,
- 68 horses.
- 59 pieces of apparatus for various purposes.
- 3,139 fire hydrants.
- 16 fire stations.
- 5 steam fire engines.

## POLICE PROTECTION,—

- 300 officers and men.
- 1 headquarters and 7 stations.

MILITARY.—There are two regular corps stationed in the City (one mounted and one infantry), at Stanley Barracks, near the site of old Fort Rouille, and five militia corps (two mounted and three infantry), four of which have first-class bands and the use of well-equipped and commodious Armouries.

LIGHTING.—There are 4 lighting companies doing business in the City. The Consumers' Gas Co have 277 miles of mains, and 33,677 consumers. Carbon Light & Power Company have 911 street lights. Toronto Electric Light Company have 1,265 street electric arc lights, 600 private business arc lights, about 120,000 private business incandescent electric lights, and also 970 miles of overhead and underground wire, and 55 miles of underground conduit.

TELEPHONE AND TELEGRAPH SERVICE.—The Bell Telephone Company is the only company doing business in the City. They have 11,500 telephones in use, 11,000 miles of overhead, 20,018 miles of underground wires, 71,723 feet of underground conduit, and 723,623 feet of ducts.

There are two telegraph companies doing business in the City, the Great North-Western Telegraph Company, with 70 sets of instruments and 250 miles of overhead wires; and the Canadian Pacific Railway Telegraph Company.

---

**PUBLIC PARKS.**—The Public Parks of the City are under the control of the City Council. There are 22 public parks, having a total area of about 1,329 acres.

**EDUCATION.**—The educational system is under the direction of the Board of Education and the Separate School Board. There are 59 public schools, having a total of 590 rooms, with a staff of 702 principals and teachers. Three collegiate institutes with a staff of 32 principals and teachers. Eighteen separate schools with a staff of 99 principals and teachers.

- 3 Industrial Schools (Protestant).
- 2 Industrial Schools (R. C.)
- 30 Colleges, Seminaries and Pay Schools.
- 1 Technical School.
- 4 Universities.
- 3 Cathedrals of all denominations.
- 209 Churches of all denominations.
- 1 Synagogue.
- 48 Missions.
- 5 Mission Training Schools.
- 9 Convents.

**PUBLIC LIBRARY.**—There is one Central Reference and Circulation Public Library, and six Circulation Libraries, all under the control of the Public Library Board. There are 117,127 volumes in circulation.

**PUBLIC INSTITUTIONS.**—

- 62 Hospitals, Asylums and Public Homes.
- 3 Institutions for destitute and criminal classes.

**LAW.**—Toronto is the centre of the Law System of the Province of Ontario, having 27 Law Courts within its limits.

**AMUSEMENTS.**—

- 5 Theatres.
- 22 Music and Concert Halls.
- 238 Public Buildings, Halls, etc.

**PUBLIC ACCOMMODATION.**—

- 184 Hotels.
- 2,470 Boarding Houses.



RAILWAYS.—There are two railway companies whose systems enter Toronto, namely: The Grand Trunk Railway, with about 86 miles of tracks laid in the City limits.

The Canadian Pacific Railway Company, with about 32 miles of tracks laid in the City limits.

96 Passenger trains enter and leave the City daily.

182 Freight trains enter and leave the City daily.

The Toronto Railway Company has the exclusive franchise for operating a street railway system within the City limits. They have 92.78 miles of tracks, about 330 cars in operation, and carried 53,055,322 passengers during 1903.

BUSINESS.—

6 daily newspapers; 49 weekly; 20 semi-monthly; 76 monthly, and 8 quarterly newspapers and periodicals; two directory companies.

5 Public markets.

30 Banks, not including branches.

760 Factories and manufactories.

370 Wholesale houses.

3 Departmental stores.

6,400 Miscellaneous business companies, corporations and stores.

SANITATION.—

*Street Cleaning, Watering and Scavenging.*—A modern and complete system of street cleaning, watering and scavenging is owned and operated by the City.

The supervision of the sanitary requirements of the City is under the control of a Local Board of Health.

The foregoing brief review of Toronto is annually compiled by

GEO. J. CASTLE,

*Secretary to City Engineer.*

PAST CITY ENGINEERS OF TORONTO.—

1840-1842, Thomas Young.

1843-1852, John G. Howard.

1853, William Thomas.

1854, John G. Howard.

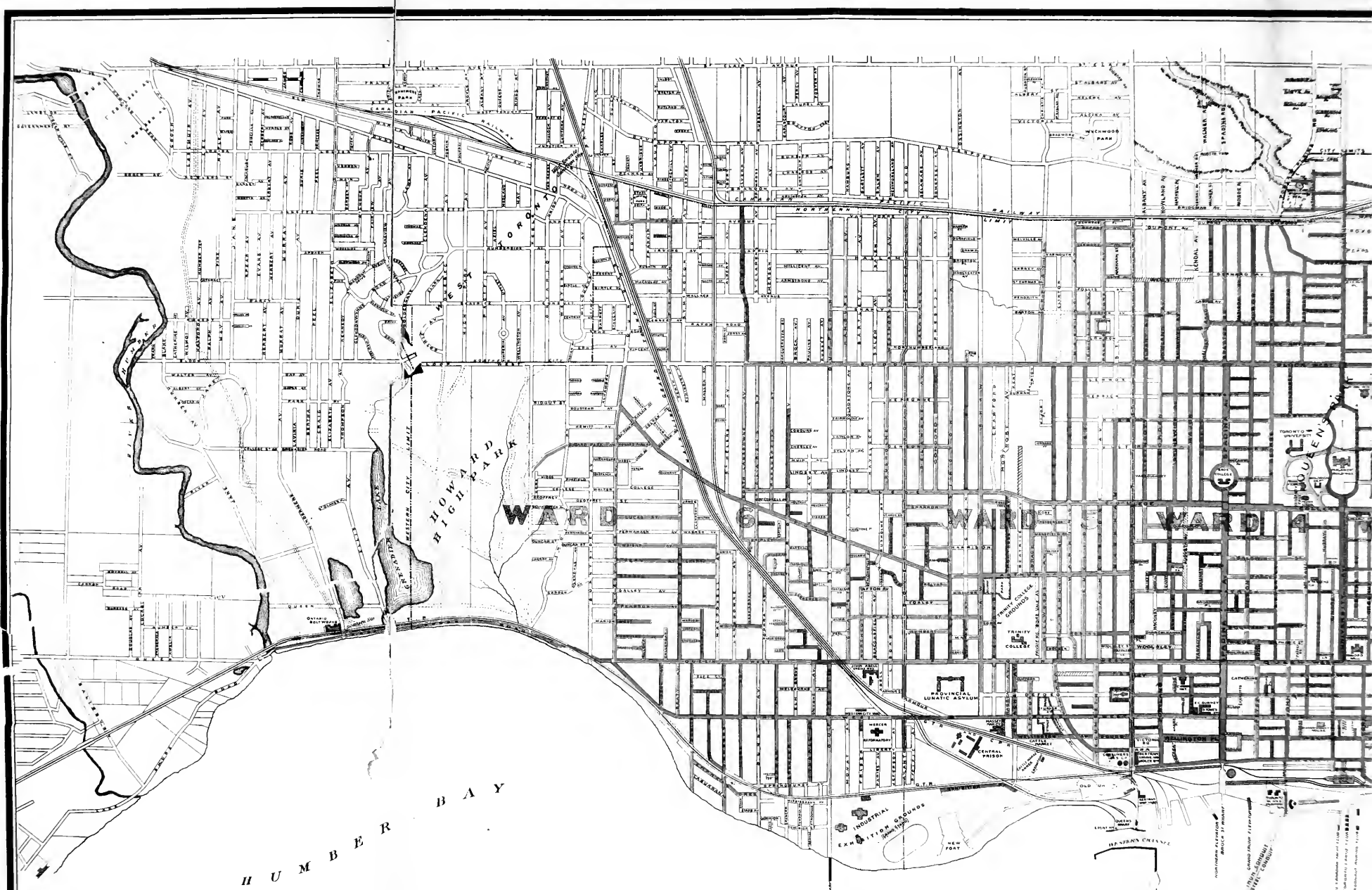
1855, William Kingsford.

1856, Thomas H. Harrison.

1857-1858, Thomas Booth.

---

1859-1860, Alfred Brunel.  
1861-1870, J. H. Bennett.  
1871-Oct., 1875, Chas. W. Johnston.  
Oct., 1875-July, 1880, Frank Shanly.  
Sept., 1880-July, 1883, R. J. Brough.  
Oct., 1883-1889, Charles Sproatt,  
1890-Sept., 1891, W. T. Jennings.  
Sept., 1891-May, 1892, Granville C. Cunningham.  
May, 1892-Jan., 1898, E. H. Keating.



HUMBER BAY

HOWARD  
HIGH PARK

WARD 6

WARD 6

WARD 4

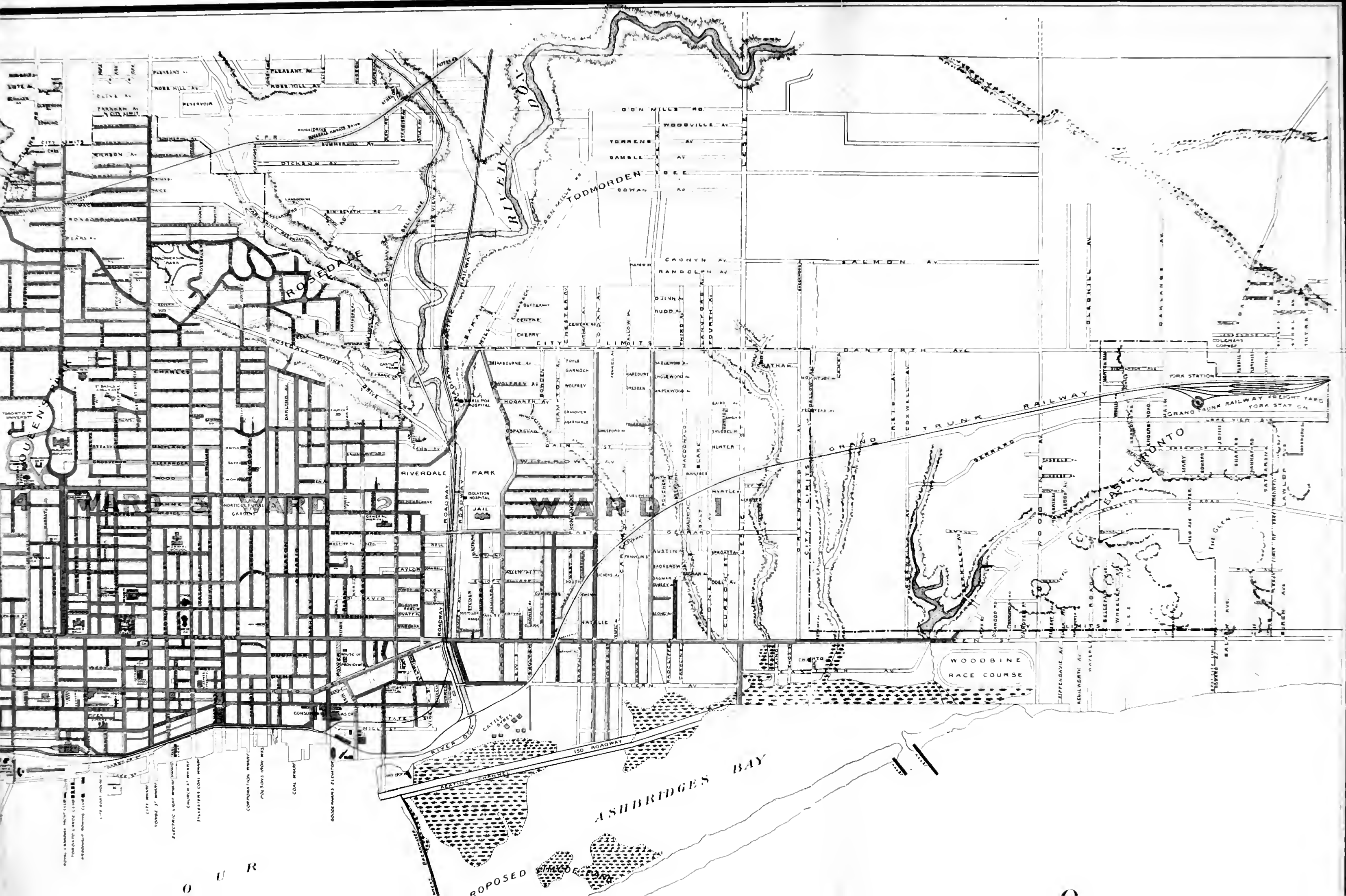
INDUSTRIAL  
EXHIBITION GROUNDS

PROVINCIAL  
LUNATIC ASYLUM

TRINITY  
COLLEGE

ST. JAMES'S PLACE

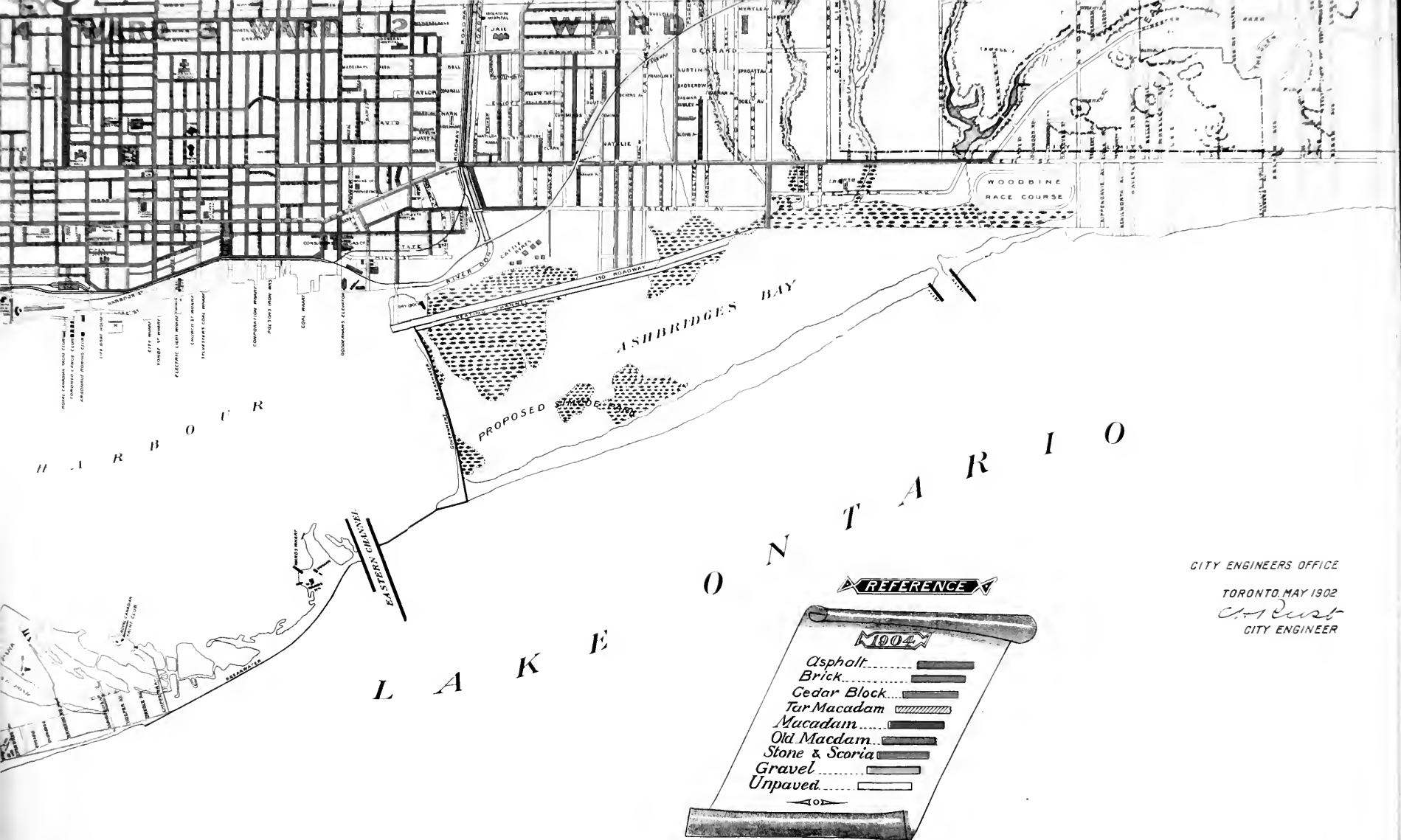
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PLAN  
OF THE  
CITY OF TORONTO





CITY ENGINEERS OFFICE

TORONTO, MAY 1902

*C. J. Rust*  
CITY ENGINEER

ANNUAL REPORT  
—OF THE—  
CITY ENGINEER

—OF THE—  
CITY OF TORONTO  
FOR THE YEAR 1903.

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CITY ENGINEER'S OFFICE,  
Toronto, December 31st, 1903.

*To His Worship the Mayor and Members of the Council of the Corporation of the City of Toronto:*

GENTLEMEN,—In compliance with By-law No. 2534, I have the honor to lay before you the Annual Report of the Department for the year ending 31st December, 1903, setting forth the various works carried out during the year, with details of cost of construction, and suggestions and recommendations as to new works and improvements required,

OFFICIAL STAFF.

The following is a list of the chief officials of the Department :

City Engineer and Chief Engineer and Manager of the Water Works.....	} Charles H. Rust, M. Can. Soc. C.E., M. Am. Soc. C.E.
Deputy City Engineer.....	C. L. Fellowes.
Asst. Engineer .....	C. W. Dill, A. M. Can. Soc. C.E.
Asst. Engineer .....	J. Williams, M. Can. Soc. C.E.
Asst. Engineer .....	W. A. Clement, M. Can. Soc. C.E.
Street Commissioner .....	John Jones.
Assistant Street Commissioner. ....	Wm. J. Evans.
Accountant.....	Wm. McCartney.
Chief Clerk .....	E. P. Roden.
Secretary Committee on Works . ....	A. H. Clarke.
Secretary to City Engineer.....	Geo. J. Castle.
Chief Engineer Main Pumping Station .....	Alex. McRae.
Chief Engineer High Level Pumping Station ..	Thos. Walsh.
Foreman of Water Works Construction .....	Edward Foley.

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 FINANCIAL.

During the year the total expenditure of the Department, not including Water Works, was \$1,090,690.40 which was divided as follows :

General and special works.....	\$395,238 20
Street railway track allowance pavements ... ..	38,249 49
Local improvements (including expenditure on Bridge Account).....	627,164 88
Departmental and sundry accounts. ....	30,037 83
Total.....	\$1,090,690 40

The amount expended for Local Improvement Works was divided as follows :

Pavements and roadways.....	\$401,598 34
Concrete and brick sidewalks .....	185,025 73
Plank sidewalks.....	18,705 81
Sewers .....	21,819 50
Total.....	\$627,164 88

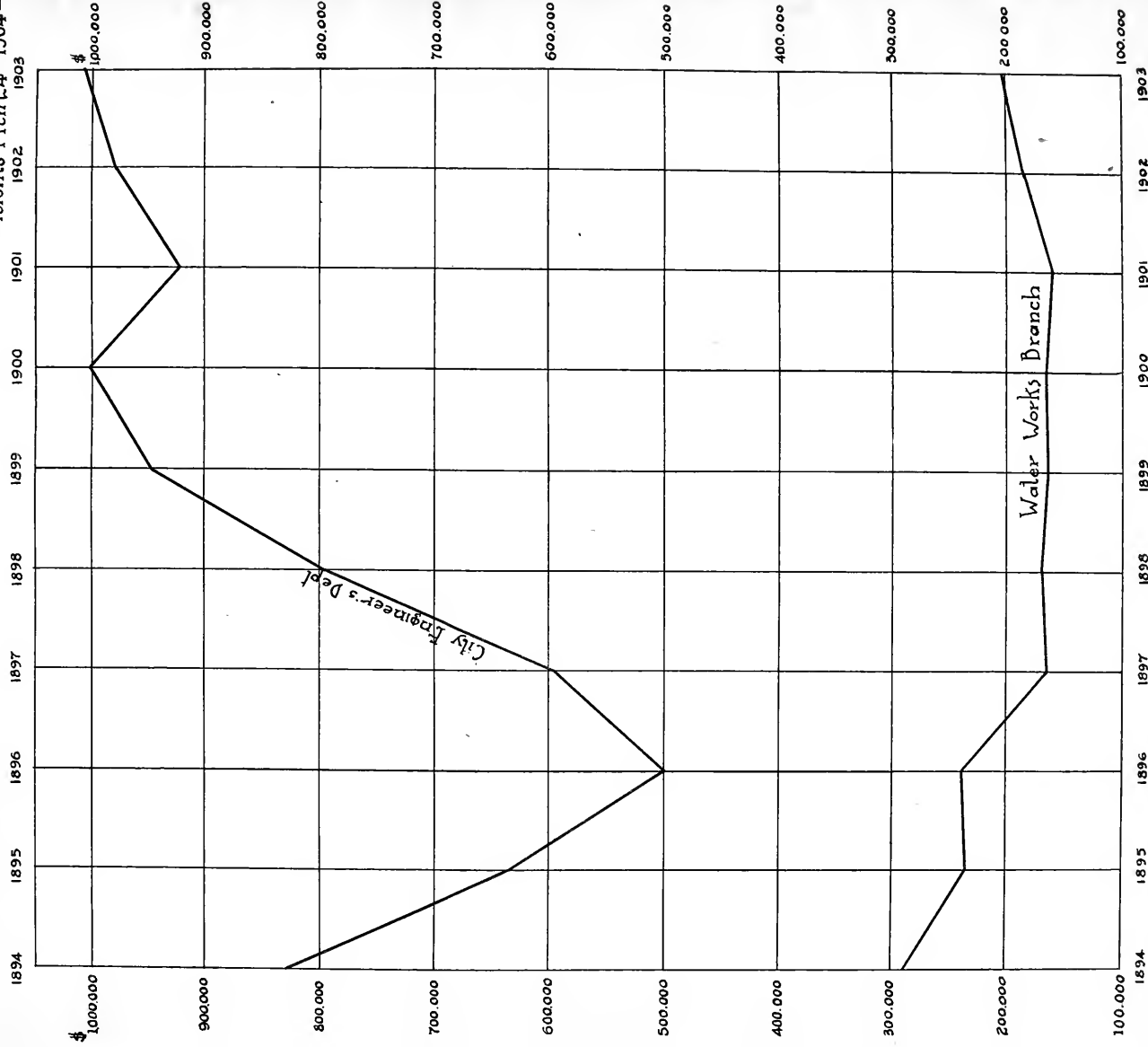
The amount expended in 1902 was \$1,153,016.28, showing an increase of about 11½ per cent. for 1903 over 1902. The total amount expended by the Department during the year, including Water Works expenditure, was \$1,293,514.04.

The following table shows the probable population of the City from 1895 to the present time, and the population, as estimated by Mr. James Mansergh, Civil Engineer, of Westminster, London, Eng., who was asked by the City Council in 1895 to visit Toronto and report upon the question of a Water Supply to this City, and in his report this matter was carefully considered. Mr. Mansergh estimated a growth of two per cent. per annum for a term of fifty years, based upon information furnished him by Mr. Maughan, late Assessment Commissioner, who calculated the probable population from data gathered by the Assessors when making their assessments of City property during the different years, which work was done at a time when the student population and a great many other people were out of town. The Police Census, taken on November 11th, 1901, showed a large increase over the Census of the Assessors taken in the summer months of the same year, and the following estimates of the population of the City from 1895 to 1903 have been based on the Police Census taken November 11th, 1901, adding a percentage

DIAGRAM shewing EXPENDITURE  
of CITY ENGINEER'S DEPT and WATER WORKS branch of dept  
from 1894 to 1903

Scale \$100,000 = 1 inch

City Engineer's Office  
- Toronto, Mich 24<sup>th</sup> 1904 -





to the Assessors' figures to make a fair allowance for the people who were out of town at the time the Assessors performed their work :

Population as estimated by Mr. Mansergh.		Estimated population.
1895 .....	175,000	191,007
1896 .....	178,500	192,440
1897 .....	182,070	197,826
1898 .....	185,712	201,439
1899 .....	189,425	208,340
1900 .....	193,214	214,967
1901 .....	197,078	* 221,583
(Census taken by Dominion Government in 1901, 208,040).		
1902 .....	201,020	237,144
1903 .....	205,040	259,757

\* Police Census taken November 11th, 1901.

I suggest that two main avenues, 100 feet in width, be laid out, providing for a double line of street car tracks, one commencing at Queen Street and University Avenue and running north-westerly to the intersection of Royce Avenue and Dundas Street, which would be about three and one-half miles in length; the other commencing at the intersection of Church and Queen Streets and running in a north-easterly direction to Danforth Avenue and Broadview Avenue, which would be about one and three-quarter miles in length. The latter street would cross the Don Valley at the head of Wellesley Street and would be cheaper, and give a more direct access to the business section of the City than the proposed extension of Bloor Street, which has been under consideration for some time. The opening of these streets would bring the north-eastern and north-western sections of the City in closer touch with the business districts. At present there are no expensive buildings on the line of the proposed avenues.

I also recommend that plans be prepared for the construction of the proposed boulevard along the lake front, from Queen's Wharf to the Humber.

Subways are required on Bloor Street, Queen Street East and Lansdowne Avenue.

I also suggest that plans be prepared showing the improvements contemplated in the Marsh, and facilities for railway accommodation.

## ANNUAL EXPENDITURE.

In connection with this matter, I submit a diagram showing the annual expenditure of the Department during the past ten years.

## SEWAGE DISPOSAL.

In my report upon the above matter, presented to the City Council in July, 1901, three schemes were suggested for the disposal of the City sewage, but no definite action has yet been taken. During the coming year we should decide upon the system to be adopted and submit the scheme to the Provincial Board of Health for endorsement, and a By-law, to provide sufficient funds to carry out this work, should be voted upon by the ratepayers.

## WATER WORKS IMPROVEMENTS.

Another important matter to be considered, which is even more pressing than the proper disposal of the sewage, is the absolute necessity of increasing the Water Works Plant. Owing to the high stage of the water in the lake during the summer, the conduit carried a sufficient supply, but if the water had fallen much below zero, there is no doubt that the citizens would have been put upon a limited supply. Mr. E. H. Keating, when City Engineer, reported upon this matter fully in October, 1893, and made certain recommendations, a number of which have been carried out. I recommend that a tunnel be built, or another pipe line laid across the bay, and it is also necessary, in order to provide ample fire protection, to construct a number of additional mains. During the year the contract was awarded to John Inglis & Company for the installation of a new 15-million gallon pumping engine at the Main Pumping Station.

To prevent the large waste of water, I am strongly of the opinion that a number of meters should be installed, and am satisfied that it would be a paying investment.

During the year Professor Shuttleworth, under the direction of Dr. Sheard, made frequent analyses of the water, and found it very satisfactory. During freshets the water has a somewhat milky appearance, due to the silt carried down by the Don and Humber Rivers. This also occurs during a very heavy easterly storm.

## STREET RAILWAY MATTERS.

Throughout the year a monthly record was taken of the street car service provided by the Toronto Railway Company, for the purpose



of ascertaining if the Company were carrying out the time-table recommended by this Department and adopted by the City Council. The records showed that, although the ordinary service was almost equal to the requirements of the time-table, the Company did not provide the number of extra cars required during the rush hours, and owing to the increased traffic, it was considered necessary to introduce a new time-table, which was adopted by the City Council on February 9th, 1903.

In 1902 an action was entered against the Company, in connection with the use of a number of old, worn-out cars, which the Company had in service, and an order of the Court was made, calling upon the Company to remove these cars within a certain time and not to use them unless with the written permission of the City Engineer. Notwithstanding this order, the Company operated a number of these cars, but they are now out of service. The withdrawal of these cars has probably somewhat crippled the Company, but no increase in the overcrowding has been noticed, as it is so great at six o'clock that the discontinuance of thirty-five small cars would not have any appreciable effect.

After some delay a suit has been instituted against the Company, covering a number of cases of non-compliance with the contract and agreement, and the matter is now before the Courts.

During the year a double line of street railway tracks was constructed upon Front Street, from Simcoe to Bathurst Street, the track allowance being paved with brick, and upon Bathurst Street, from Front Street to King Street, the track allowance being paved with stone blocks. As all the property upon the south side of Front Street belongs to the Grand Trunk Railway Company, and is used entirely for railroad purposes, it was considered more advantageous to lay the tracks upon this side of the street, and the poles were placed in the centre of the "devil-strip." These lines were ready for traffic on November 6th, 1903, the Arthur Street cars running from the corner of Ossington Avenue and Arthur Street to the Market and return.

A short street railway extension was also constructed upon Avenue Road, from Dupont Street to a point 250 feet south of the City limits. The Company attempted to extend this line to the City limits without the permission of the Council, but His Worship the

Mayor took prompt steps to have the work discontinued, and an injunction was issued by the Courts, prohibiting the Company from proceeding therewith.

The paving of the track allowance upon Parliament Street extension, which was commenced in September, 1902, was discontinued, owing to the Company refusing to proceed with the laying of the rails beyond Wellesley Street, and this is one of the matters now before the Court.

During the year the rails upon Yonge Street, between Queen and Front Streets, were replaced by 90-lb. rails. These rails had been in use since the introduction of the electric street railway system in 1892 and had become worn. The Company also cast-welded the rails upon a number of streets and erected 346 iron poles.

In the latter part of the year, owing to the increased traffic, the Toronto Railway Company had not sufficient power to provide a proper service during the crowded hours, and in stormy weather the public were put to a great deal of inconvenience. The Company are now installing additional motive power, and I understand hope to be in a position to furnish all the power required early in the year. The Company do not appear to have anticipated or provided for the large increase in traffic, and their neglect to furnish adequate power and ample car accommodation has put the citizens of Toronto to very great inconvenience.

In December, without the permission of the City, the Company erected a feed wire at the terminus of their line upon Yonge Street, for the purpose of obtaining power from the Metropolitan Railway Company. Under instructions from the Mayor this cable was cut, with the assistance of the Fire Department. The Company have now entered into an agreement, satisfactory to the City, and permission has been given them to make this connection.

I regret that no further progress has been made towards establishing a cross-town street railway service, and the diversion of the Avenue Road route down Terauley Street to Bay Street and Front Street. These matters were before the Committee on Works upon two occasions, but no action was taken. These extensions should be carried out at an early date, and I trust that during the coming year the Council will endorse the recommendations in this connection.

Some progress has been made in connection with inter-urban railways. I understand His Worship the Mayor, and Mr. Moore, representing the various Companies, have been in consultation and are now preparing an agreement for submission to the Council.

#### TELEPHONE, ELECTRIC LIGHT WIRES, POLES, ETC.

Although the attention of the Council has been called upon many occasions to the urgent necessity of taking steps towards remedying the nuisance and danger caused by the numerous wires which are at present strung over the City streets, and to the unsightly poles which disfigure our main thoroughfares, no steps have been taken towards arranging with the Companies for their removal. The Toronto Electric Light Company and the Bell Telephone Company have laid considerable underground work. During the year the former Company laid 26,400 feet, and the latter 666 feet. This makes a total of 290,400 feet of underground conduit belonging to the Toronto Electric Light Company, and 71,723 feet belonging to the Bell Telephone Company. The Chief of the Fire Department has also called the attention of the Council to the danger and difficulty in extinguishing fires where the overhead wires exist. I strongly advise that the necessary legislation be obtained empowering the City to compel the various Companies to place all wires underground, including the feed wires of the Toronto Railway Company. I suggest that the wires in the centre of the City be first placed underground.

The overhanging signs that are so numerous on the principal streets are also a danger and disfigurement, and I recommend that the Council issue instructions for their removal.

#### SEWERS AND SPECIAL WORK.

During the year 18,916 feet of sewers were constructed. Seventeen contracts for sewers were constructed by day labor, resulting in a saving of \$4,519. The details of this work are given in Table No. 2 of the report of the Assistant Engineer in charge of sewers. In the construction of one sewer only was there a loss of a small amount. The mileage of sewers laid is a large increase over the previous year and brings the total length of sewers in the City up to 237.98 miles. About 100 miles of sewers were flushed and cleaned.

At the request of the Commissioner of Assessment and Property we provided the labor for carrying out a large amount of drainage work at the Western Cattle Market.

During the year 25,071 feet of 6-inch drain and 1,259 feet of 9-inch drain were constructed from the main sewer to the property line, the cost of the work being paid by the property owners.

#### SURVEY OF THE BAY.

During the year a survey was made of the Bay and a record of soundings made. In view of the rapidly decreasing depth of water in the Bay and of the necessity of furnishing the Government with information relative to its condition, it was considered advisable to carry out this work, which will be completed during the coming winter.

#### TEMPERATURE AND RAINFALL.

Through the kindness of Mr. Stupart, Director of the Meteorological Department, I attach a table giving the temperature and rainfall during the year.

#### PRECIPITATION—TORONTO, 1903.

	Rainfall.	Snowfall.	Total pre- cipitation.	Rain heav- iest fall in one day.	Snow heav- iest fall in one day.
	Inches.	Inches.	Inches.	Inches.	Inches.
January . . . . .	0.660	20.4	2.700	0.265	6.2
February . . . . .	1.500	13.0	2.800	0.590	7.0
March. . . . .	1.805	0.2	1.825	0.440	0.1
April . . . . .	3.440	3.0	3.740	1.780	3.0
May. . . . .	1.790	0.1	1.800	0.900	0.1
June. . . . .	3.335	.....	3.335	0.850	.....
July. . . . .	4.345	.....	4.345	1.220	.....
August. . . . .	3.650	.....	3.650	1.370	.....
September. . . . .	0.410	.....	0.410	0.180	.....
October. . . . .	2.660	1.2	2.780	0.630	1.0
November . . . . .	1.000	2.6	1.260	0.490	2.4
December. . . . .	1.036	9.5	1.986	0.505	3.0
	25.631	50.0	30.631	1.780	7.0
				14 in. Apr.	8 Feby.

#### STREET RAILWAY POLES.

During the year the Toronto Railway Company erected iron trolley poles on the following new lines:

Avenue Road, from the C.P.R. tracks to the north end. . . . .	22
Bathurst Street, from Front Street to King Street. . . . .	16
Front Street, from Simcoe Street to Bathurst Street. . . . .	32

On Front Street, between Frederick Street and York Street, 11 additional poles to carry the cables were erected, and one extra on Church Street, at the corner of Carlton Street.

Iron poles have been substituted for wooden ones on the following streets :

Bathurst Street, from King to Queen Street .....	17
Bathurst Street, from College to Bloor Street.....	51
Dundas Street, at the sheds.....	4
Dundas Street, from Queen to Arthur Street ....	30
King Street, from Dunn Avenue to Queen Street.....	58
Parliament Street, from Queen to Gerrard Street .....	36
Queen Street, from Parliament to River Don .....	36
Spadina Crescent and Spadina Avenue to Bloor Street.....	44

The poles have been painted on the following sections of streets :

Avenue Road, from C.P.R. to north end.  
 Bathurst Street, from Front Street to Bloor Street.  
 College Street, from Yonge to Elizabeth Street.  
 Dundas Street, from Queen to Arthur Street, and four at sheds.  
 Front Street, from Sherbourne to Bathurst Street.  
 Parliament Street, from Queen to Gerrard Street.  
 Queen Street, from Parliament to River Don.  
 Simcoe and Station Loop.  
 Sherbourne Street, from Queen to north end.  
 Spadina Avenue, from King Street to Bloor Street.

#### SAND PUMP.

The sand pump commenced the work of completing the channel between Long Pond and St. Andrews Avenue, at the Island, on April 6th, and completed the same in August, removing about 48,500 yards of material. The entrance to Long Pond was then widened, and about 21,000 yards of material removed from this point. The pump was then sent to Ashbridge's Bay to dredge the entrance to the Lake, working there until October 18th, and was afterwards sent to Keating's Channel, and dredged there and at the Island until December 1st.

#### ROADWAYS AND SIDEWALKS.

During the year the Roadway Department carried out 367 works, of which 46 were constructed by day labor. This is an increase of 43 over the previous year, and an increase of 139 over the year 1901.

The foregoing works comprised 16.83 miles of pavements and 34.98 miles of concrete and brick sidewalks. In addition, the boulevards on a number of the streets where permanent sidewalks were constructed, were graded and sodded.

From an examination of Table No. 2 it will be seen that there is a marked increase in the construction of asphalt and tar macadam roadways.

During the past six years 120.31 miles of pavements have been constructed, which is 46 per cent. of the total mileage of the streets of the City.

The concrete sidewalks constructed show an increase of 7.53 miles over 1902.

We have had the usual trouble during the year in connection with the construction of sidewalks to the curb. In nearly every instance the property owners insist upon having the walk placed to the curb, without realizing the difficulties to be encountered. As far as possible their wishes are carried out, but in some cases it is impossible to do so, owing to the existence of trees, telephone poles, etc. I do not consider it good policy to have all sidewalks so constructed. Complaints have been received from pedestrians of the danger on a narrow walk, especially after dark, in cases where it has been necessary to bevel off the walk at a very sharp angle to provide entrances to lanes.

As usual, the Department has tendered upon all works and the City Engineer's tender was the lowest on 69 contracts, 46 of which were carried out by day labor under his supervision, the remaining 23 being constructed by various contractors at the figures of this Department. Tables 9 and 10 show the cost of the works carried out by day labor, and by reference thereto it will be seen that the Department made a profit of \$8,984.78.

#### ASPHALT PAVEMENTS.

There has been keen competition during the year in the construction of this class of pavement, owing to another firm of contractors tendering for California asphalt, and consequently the prices dropped considerably. Compared with maximum prices in 1901, the decrease represents about 30 per cent.

The use of stone curbing on streets paved with asphalt has been abandoned in favor of a combined concrete curb and gutter, which gives a much better finish and is more satisfactory and economical.

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BRICK PAVEMENTS.

There has been a considerable increase in the mileage of brick pavements constructed, and had the supply been equal to the demand, more pavements of this class would have been laid. The brick pavements are in a very good condition and would be more popular were it not for the noise.

## CEDAR BLOCK PAVEMENTS.

The mileage of this class of pavement has decreased very much. No new cedar block pavements, upon gravel foundations, were constructed, but some of the old pavements were re-laid with cedar blocks.

## TAR MACADAM ROADWAYS.

Tar macadam roadways have become very popular. During the year eleven streets were paved with this material. The first pavement was laid in 1900, and so far appears to be wearing very well. Upon residential streets with light traffic they are a great improvement on the ordinary macadam. On Dupont Street, where street railway tracks were laid, it was decided to construct a tar macadam roadway and this is the only street that has not proved entirely satisfactory. In my opinion the contractor did not use sufficient care in mixing the material. He had not previously constructed a roadway with this class of material and had inexperienced hands and no mechanical mixing machinery. We now construct brick gutters with tar macadam roadways, which is a decided improvement.

## CONCRETE ROADWAYS.

Two pavements were constructed during the year with concrete, one upon Francis Street, where there is considerable traffic, and the other upon McFarren's Lane. It appears to make a very satisfactory pavement, being easily cleaned and cheaper than brick or asphalt. If it will stand heavy traffic, it will make a very economical pavement.

For further information in connection with this Branch of the Department, I would refer you to the report of the Assistant Engineer in charge of the work.

## BRIDGES AND WHARVES.

During the year the ordinary repairs were made to the bridges under the control of this Department, and with the exception of the bridge at the Cattle Market, which requires re-painting, they are now in fairly good condition.

Owing to the amalgamation of the City Commissioner's Department and the Department of Assessment, the wharves and docks were placed under the control of the City Engineer, and the work placed in charge of Mr. Williams, the Assistant Engineer in charge of bridges.

Extensive repairs were made to the Yonge Street Wharf, especially that portion used by the Toronto Ferry Company. The new docks for the Ferry Company were completed, with the exception of the buildings, and provide for the two large double enders belonging to the Company and also give ample accommodation for the smaller boats. Buildings erected on this dock in the future should possess some architectural features. Most of the existing buildings belonging to the City on the docks are of a very cheap and ugly construction, and I trust that Council will provide an additional appropriation to erect structures that will reflect some credit upon the City.

The present Yonge Street dock should be extended to the new Windmill Line, and when this is done, and suitable buildings erected, the City will have three complete docks upon the water front. The construction of the Yonge Street bridge and the extension of the street railway system to Lake Street, will no doubt bring in a large annual rental from these docks, and they will be much more accessible than any of the existing wharves.

For further details in connection with this branch of the Department, I would refer you to the report of the Assistant Engineer in charge of the work.

#### STREET COMMISSIONER'S DEPARTMENT.

The report of the Street Commissioner, who has charge of the repairs to macadam, gravel and cedar block roadways, the construction and repair of wooden sidewalks, street watering, street cleaning, and scavenging, is attached.

Special repairs were made to 16 macadam roadways, the average cost being 22½ cents per square yard.

The gravel roads which were constructed five or six years ago, as local improvements, payments for which extended over three years, have since been maintained out of the general taxes. This practice should be discontinued and any further repairs required should be carried out on the local improvement plan.



During the winter of 1902 and 1903 snow was removed from about 45 miles of sidewalks opposite vacant property, the cost of which was \$6,902 and was assessed against the abutting property.

Owing to the light snow-fall during the winter, the cost of removing snow from the roadways and crossings was not excessive, being only \$4,752.

As a consequence of the amalgamation of the Department of Assessment and the City Commissioner's Department, the dog trapping was placed under the control of this Department, the work being carried out under the supervision of the Street Commissioner.

In connection with street cleaning and scavenging, owing to the impossibility of obtaining dumping grounds in the centre of the City, the long haul has increased the cost of this work.

During the year a new garbage destructor was erected at the Cattle Market, and in his report the Street Commissioner gives a full description and plan of this furnace. So far it has given entire satisfaction.

During the coal famine the City purchased a large quantity of coal for distribution to the citizens at cost price, the work being placed in charge of the Street Commissioner. The total amount of coal of all kinds purchased was 8,230 tons and of wood 2,964 cords. The number of deliveries was 11,795 and in addition 3,550 purchasers carried away the fuel. Eight vessel-loads of Welsh and Scotch coal were purchased and delivered at the Harbor Square and Water Works Dock, the financial part of this work being under the control of the City Treasurer.

For further information in connection with these matters, I would refer you to the report of the Street Commissioner, where full details of the work are to be found.

Respectfully submitted,

C. H. RUST,

*City Engineer and Chief Engineer  
and Manager Water Works.*

## PAVEMENTS, ROADWAYS AND PERMANENT SIDEWALKS.

CITY ENGINEER'S DEPARTMENT,

Toronto, December 31st, 1903

Mr. C. H. Rust,

*City Engineer.*

DEAR SIR,—The following Report of the work done under the supervision of the Roadway Branch of the City Engineer's Department, gives in detail the extent and costs of the various contract and day labor works constructed.

Thirty-eight contracts were let in 1902 and carried over to be constructed this year. Two hundred and thirty-two contract works let in 1903 were constructed and forty-six day labor works were undertaken and the construction of fifty-one private permanent walks were superintended, making in all three hundred and sixty-seven works undertaken during the year. This is an increase of forty-three over the previous year, 1902, and an increase of one hundred and thirty-nine over the year 1901, which up to that time was the largest number of works undertaken in any one year.

This indicates the great increase in the work done by this Department, and is also an indication of the desire of the ratepayers to have permanent improvements constructed. In addition to the above, the boulevards of a number of streets, on which permanent walks and pavements had been constructed, were graded and sodded.

The work done consists of the construction of 16.839 miles of pavements and 34.989 miles of concrete and brick sidewalks. A reference to Table No. 2 will show that the pavements constructed show a decrease of 0.574 miles as compared with the year 1902, but this decrease is entirely in the much less extent of the track allowance pavements, the street pavements showing an increase of 1.347 miles as compared with the year 1902. Another favorable feature is the marked increase in the extent of asphalt, brick and tar macadam pavements constructed and a marked decrease of ordinary macadam and cedar block roadways. A reference to Table No. 7 will also show a corresponding increase in the number of square yards of permanent pavements constructed, indicating that the improvement of the important thoroughfares of the City is being maintained.



STONE PAVEMENT, FRONT STREET, WEST OF SIMCOE.



The concrete sidewalks constructed show an increase of 7.537 miles as compared with 1902, and an increase of 17.592 miles as compared with 1901, indicating the continually increasing popularity of this permanent walk in the City.

During the past six years 120.31 miles of pavements have been constructed, which is 46 per cent. of the total mileage of the streets of the City.

The system of the City Engineer tendering against contractors has been continued this year, and in competition his tender was found to be the lowest on sixty-nine contracts, forty-six of these being carried out as day labor works under the supervision of the Department, while the remaining twenty-three were taken by the contractors at the Engineer's contract prices and constructed by them at a considerable saving to the ratepayers.

Tables 9 and 10 show the actual cost of these works, also the loss or gain when compared with the lowest contractor's tender.

The following table classifies the various works constructed during the year, showing an increase over 1902 of forty-three in the number of works constructed under the direction of this Department:

TABLE No. 1.

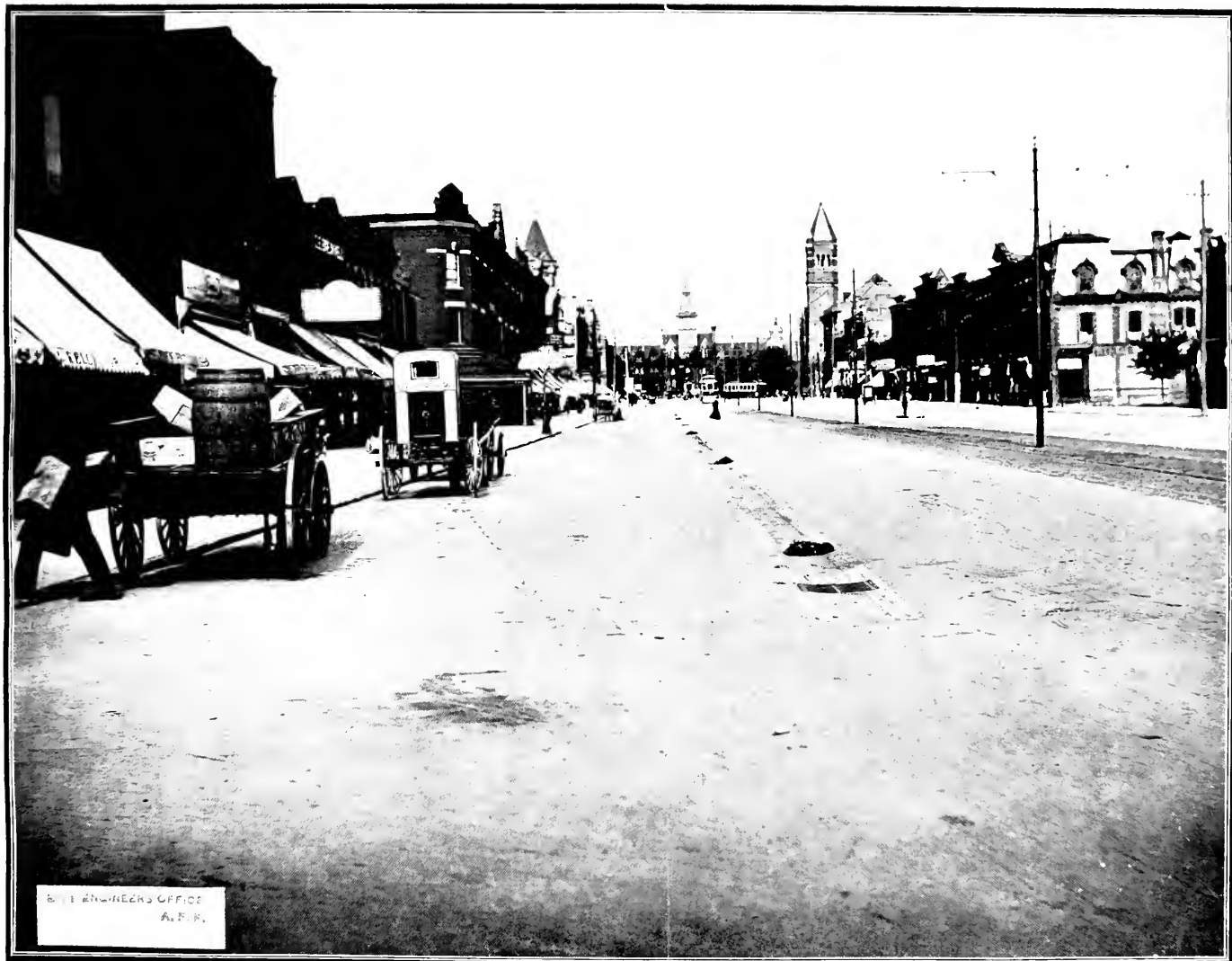
<i>Class of Work.</i>	<i>No. of Works.</i>
Asphalt . . . . .	25
Bitulithic . . . . .	1
Asphalt blocks. . . . .	1
Brick on concrete . . . . .	10
Concrete. . . . .	2
Cedar blocks on concrete . . . . .	1
Cedar blocks on sand. . . . .	5
Macadam . . . . .	14
Tar macadam . . . . .	11
Construction of track allowance (2 brick, 1 stone setts) . .	3
Square wood block. . . . .	1
Stone setts . . . . .	1
Concrete sidewalks. . . . .	236
Private contracts (sidewalks) . . . . .	51
Stone and wood curbing . . . . .	5
Total . . . . .	367

In connection with pavements and sidewalks, including those proposed but not carried out, 102 plans and 542 estimates were prepared.

TABLE No. 2.

## MILEAGE OF DIFFERENT CLASSES OF PAVEMENTS, ROADWAYS AND SIDEWALKS LAID FROM 1890 TO 1903.

Class of Work.	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903
Pavements and roadways:	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
Asphalt.....	1.73	1.635	6.216	5.607	3.067	1.136	0.366	0.460	3.408	6.215	6.348	4.449	5.237	6.662
Cedar block on sand and plank foundation.....	15.51	9.186	3.349	3.249	0.852	1.753	0.428	2.459	4.831	3.151	7.842	2.725	2.191	1.774
Macadam (including tar-macadam).....	.....	0.123	0.494	.....	0.059	1.663	1.661	0.510	2.089	5.013	2.503	2.733	5.486	4.948
Cobble.....	0.16	0.069	0.366	.....	.....	.....	.....	.....	.....	0.067	0.068	.....	.....	.....
Tamarac on concrete.....	0.192	0.077	.....	.....	.....	.....	0.038	.....	0.084	0.079	.....	0.021	.....	0.210
Cedar blocks on concrete.....	.....	.....	8.416	2.185	0.826	0.227	.....	.....	.....	.....	.....	.....	.....	0.069
Stone sets on concrete.....	.....	.....	0.705	3.743	2.563	0.085	.....	.....	.....	1.367	0.107	0.028	.....	0.427
Scoria blocks on concrete.....	0.138	.....	0.028	.....	0.117	0.117	1.032	5.803	6.079	3.670	5.472	2.885	4.272	2.602
Brick on concrete.....	.....	.....	.....	3.964	0.787	0.744	0.028	0.838	0.352	0.943	0.037	.....	.....	.....
Brick on gravel.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.546	0.516	1.627	.....	.....
Brick on broken stone.....	.....	.....	.....	.....	.....	0.071	.....	.....	0.057	.....	.....	0.041	0.147	.....
Concrete pavements.....	.....	.....	.....	.....	.....	.....	.....	3.138	4.756	0.063	0.303	0.222	.....	.....
Gravel.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Concrete in track allowance.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals.....	17.670	11.090	19.574	18.748	8.154	5.816	3.553	13.208	24.642	21.120	24.666	15.629	17.413	16.839
Sidewalks:														
Concrete.....	1.426	1.930	1.508	2.259	1.137	1.918	0.612	1.050	2.548	5.474	15.227	17.305	27.360	34.896
Stone flag.....	1.273	0.398	0.104	0.035	0.011	.....	.....	.....	.....	.....	.....	.....	.....	.....
Brick.....	.....	.....	.....	.....	.....	.....	0.204	0.823	1.188	0.292	0.638	0.511	0.049	0.093
Totals.....	2.699	2.328	1.612	2.294	1.148	1.918	0.816	1.873	3.736	5.766	15.265	17.816	27.409	34.989



B. I. ENGINEERS OFFICE  
A. E. R.

SPADINA AVENUE ASPHALT.



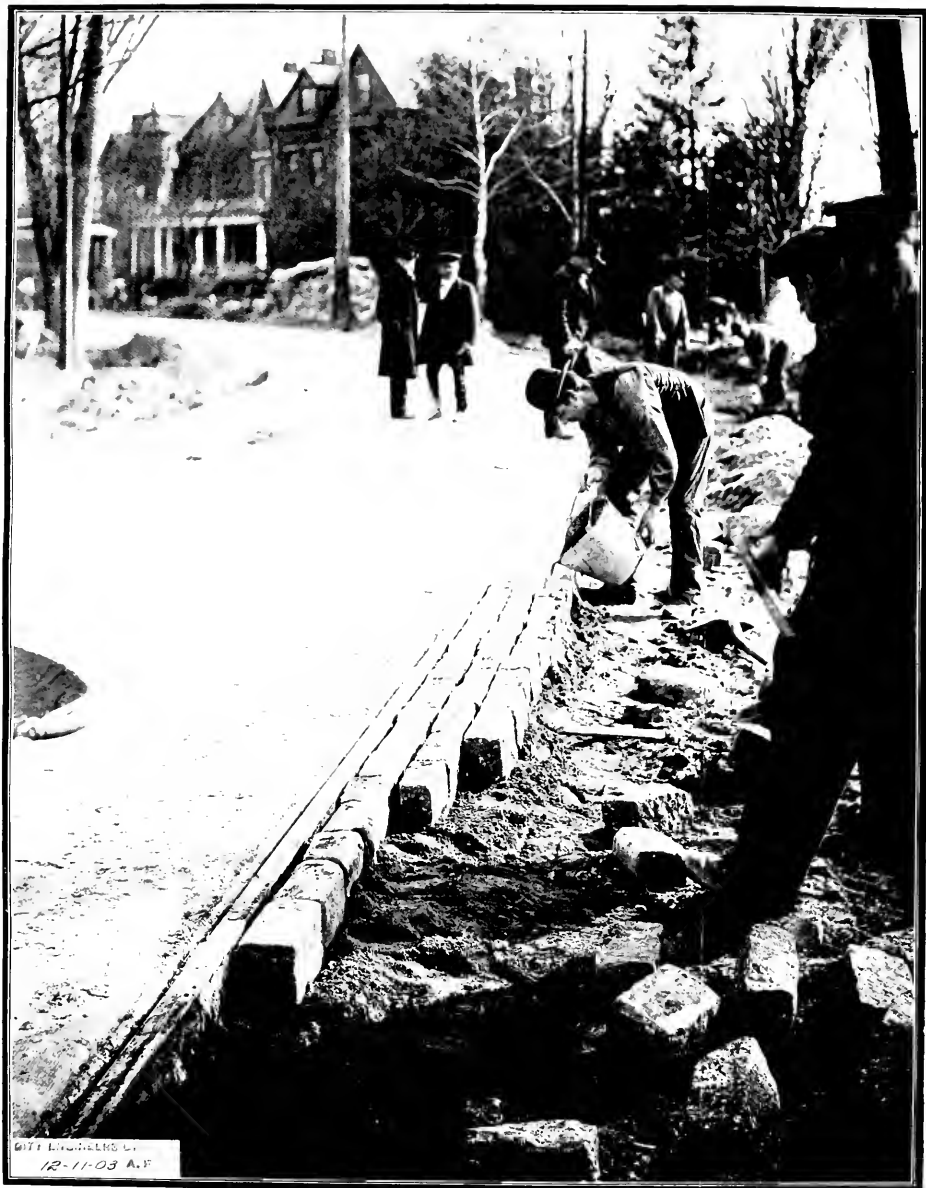


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\* The first pavements laid under the Local Improvement System were constructed during the year 1881, and the annual variation in the mileage of paved and unpaved streets, with classification of same, up to the end of 1903, is shown in the following Table No. 3 :

3—E





GUTHRIE & SONS CO.  
12-11-03 A.S.

KING STREET WEST, ASPHALT.



TABLE No. 4.

SHOWING PERCENTAGE OF DIFFERENT CLASSES OF PAVEMENTS AND ROADWAYS.

Cedar block.....	16.30 per cent.
Stone or scoria .....	0.43 "
Asphalt .....	17.51 "
Wood on concrete .....	0.19 "
Macadam (including tar macadam).....	19.70 "
Cedar block with paved track allowance .....	6.59 "
Macadam with paved track allowance .....	1.86 "
Brick .....	5.37 "
Gravel .....	2.21 "
Unpaved .....	29.93 "
	<hr/>
	100.00 "

## ASPHALT PAVEMENTS.

During the year nine heavy asphalt pavements and sixteen light asphalt pavements were constructed, and the construction of an asphalt block pavement was started and completed with the exception of laying the asphalt blocks, which work was delayed owing to the continued severe cold weather. The pavements constructed aggregate 64,256 square yards of heavy asphalt, 38,337.5 square yards of light asphalt and 656 square yards of asphalt block, and a total length of 6.662 miles, which is 39½ per cent. of the total mileage of all classes of pavements and roadways constructed during the year. The total length of asphalt pavements in the City is now 46.645 miles, or 17.51 per cent. of the total length of paved and unpaved streets in the City.

The keen competition in tendering was continued this year, three firms of contractors being in the field, and, as a result, the prices dropped even lower than during 1902. Compared with maximum prices in 1901 the decrease represents about 30 per cent. of the average prices for 1903.

The repairing of the asphalt pavements upon which the terms of guarantee have expired was let by tender, the prices for the year being \$1.09 and \$0.97 per square yard for 2½ inch and 2 inch surface respectively, and \$5.50 per cubic yard for concrete foundation. Amount expended in asphalt repairs, \$16,873.01.

A slight change was made in our specifications for heavy asphalt surface, the binder or cushion coat being increased from ¾ of an inch

to 1 inch in thickness and the surface coat being increased from  $1\frac{3}{4}$  inches to 2 inches.

The use of stone curbing on asphalt pavements has been almost entirely dispensed with, the combined concrete curb and gutter being more slightly stronger and cheaper. In constructing asphalt pavements during the year 13,311 lineal feet of stone curb and 45,414 lineal feet of concrete curb were placed, as compared with 38,289 lineal feet and 8,931 lineal feet respectively for 1902.

The quantities, prices and other details connected with the asphalt pavements constructed during the year are tabulated in Tables Nos. 7 and 8. The accompanying table gives the details of the asphalt mixtures used in paving during the year, including the sand and stone dust used.

Table No. 5 is a list of the streets paved with asphalt on which the contractors' terms of guarantee have expired.

TABLE No. 5.  
SHOWING STREETS PAVED WITH ASPHALT UPON WHICH THE CONTRACTORS'  
GUARANTEES HAVE EXPIRED.

Street.	From.	To	Length Feet.	Date of Expiry of Guarantee.
Jarvis .....	Queen .....	Bloor .....	6,734	Oct. 1, 1894
St. George .....	Bloor .....	Bernard .....	2,025	Oct. 9, 1894
Wellington .....	Church .....	Yonge .....	900	June 28, 1894
Sherbourne .....	Queen .....	Bloor .....	6,786	June 1, 1895
Simcoe .....	King .....	Queen .....	1,182	Aug. 1, 1895
St. George .....	Bernard .....	Dupont .....	966	June 14, 1895
Ontario .....	Carlton .....	Howard .....	2,824	July 28, 1895
Sherbourne .....	King .....	Queen .....	1,160	July 2, 1895
Bloor .....	Yonge .....	Sherbourne. .	2,661	Nov. 18, 1895
Scott .....	Front .....	Colborne .....	374	Nov. 7, 1895
Wellington .....	Bay .....	York .....	848	July 18, 1896
Gerrard .....	Jarvis .....	Sherbourne ..	934	July 14, 1896
Melinda .....	Yonge .....	Bay .....	587	Aug. 5, 1896
Jordan .....	Wellington .....	King. ....	379	Aug. 5, 1896
Sherbourne .....	The Bridge .....	South Drive. .	1,076	Nov. 11, 1896
Bay .....	King .....	Queen .....	1,175	Aug. 15, 1896
St. George .....	College .....	Bloor .....	3,286	Sept. 25, 1896
Toronto .....	N. line stone pvt.	Adelaide .....	349	May 1, 1897
Adelaide .....	York .....	Spadina .....	3,001	July 21, 1897
Victoria .....	King .....	Adelaide .....	414	Sept. 1, 1897
Rose .....	Howard .....	Winchester. .	2,134	Sept. 1, 1897
Yonge .....	King. ....	Hayter .....	4,000	Nov. 9, 1897
St. James .....	Ontario. ....	Parliament ..	595	Sept 7, 1897
Yonge .....	Hayter .....	Grenville. ....	944	Nov. 14, 1897
Devonshire Pl. .	Hoskin. ....	Bloor .....	1,228	Sept. 30, 1897
Yonge .....	Grenville. ....	Bloor .....	3,099	Nov. 25, 1897
Richmond .....	Victoria .....	Bay .....	852	June 27, 1898
Earl .....	Sherbourne. ....	West terminus.	634	July 13, 1898
Winchester. ....	Parliament .....	Sumach .....	1,512	Aug. 24, 1898
Mann's Lane .....	Wellington .....	218 ft. north. .	218	Aug. 23, 1898
Czar .....	Yonge .....	North. ....	666	Sept. 25, 1898
Lane around Inla .	nd Revenue Office	.....	265	Oct. 5, 1898
Linden .....	Sherbourne. ....	Huntley .....	585	Oct. 21, 1898
Hoskin .....	St. George. ....	Queen's Pk. Cr.	1,130	June 27, 1899
Carlton .....	Jarvis .....	Sherbourne ..	937	June 7, 1899
Queen .....	Yonge .....	River .....	6,084	July 14, 1899
Bleecker .....	Carlton. ....	Wellesley .....	1,412	July 5, 1899
Wellesley .....	Sherbourne. ....	Parliament. ....	1,227	Sept. 25, 1899
Cecil .....	Spadina .....	Beverley .....	1,052	Sept. 27, 1899
McCauley (tracks). .	Queen .....	College .....	3,384	Nov. 5, 1899
Adelaide .....	Yonge .....	Church .....	903	Nov. 8, 1899
King .....	Simcoe .....	Sherbourne ..	4,999	June 15, 1899
Leader Lane .....	King .....	Colborne .....	197	May 25, 1900
Avenue Rd. (trk's)	Bloor .....	Davenport .....	2,289	May 21, 1900
Avenue Rd. ....	Bloor .....	Davenport. ....	2,289	Aug. 29, 1900
St. Patrick .....	McCauley .....	Beverley. ....	606	Sept. 9, 1900
Victoria .....	Adelaide .....	Queen .....	694	Sept. 28, 1900

### BRICK PAVEMENTS.

There has been a considerable increase in this class of pavement as compared with previous years, and the increase would have been larger had the supply of brick been equal to the demand, a number of contracts awarded during the year not having been completed. There was, however, a decrease in the number and extent of the track allowances being paved, due to the fact that most of these track allowances have been paved and the extensions to the system have not been very large. In 1903 the pavements on streets aggregated 1.466 miles as compared with 0.994 miles in 1902, and track allowance construction and re-construction aggregated 1.136 miles as compared with 3.278 miles. The comparison of square yards of brick pavements constructed shows a total of 38,993 square yards in 1902 and 30,285 square yards in 1903.

All the street and track allowance pavements were constructed with concrete foundations, and stone curbing only has been used on street pavements.

The track allowance construction shows 1.357 miles of new tracks constructed during the year, 1.136 miles of which was paved with brick and 0.221 miles with granite setts. These tracks were laid on our standard concrete construction foundation, and a 6½-inch new design heavy grooved girder rail used with a line of granite setts laid as a stringer on each side of the rail. The use of the T-rail has proven to be very unsatisfactory, as it is impossible to maintain an even permanent pavement where this type of rail has been used.

In constructing brick pavements during the year 13,855 lineal feet of stone curbing were placed.

The quantities, prices and other details of the brick pavements constructed during the year are shown in Tables Nos. 7 and 8.

### CEDAR BLOCK PAVEMENTS.

During the past three years a decided reaction has set in against this class of pavement, the result being a gradual decrease in the mileage of both new pavements and renewals of the cedar block surface. This year shows a still further decrease, which indicates that the ratepayers now consider a durable pavement the first consideration instead of cheapness. No new pavements on gravel foundation were constructed. On account of the cheapness of repair old cedar





CITY ENGINEERS OFFICE  
6-11-03 A.P.E.

SHERIDAN AVENUE BRICK PAVEMENT.



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block pavements on five streets were renewed with a surface of new cedar blocks and one street was paved with cedar blocks on a concrete foundation with a filling of mixed tar and pea-gravel. The length of streets paved with cedar blocks during the past four years are as follows: 1900, 7.842 miles; 1901, 2.725 miles; 1902, 2.191 miles; 1903, 1.774 miles.

In connection with cedar block paving, 17,952 lineal feet of wood curbing and 167 lineal feet of stone curbing were placed. Tables Nos. 7 and 8 show in detail the cost and quantities of the cedar block pavements laid during the year.

Table No. 6 shows the sections of streets on which the final assessment for pavements has been paid or will be paid during the ensuing year. Many of these pavements are beyond repair.

TABLE No. 6.

Street.	From.	To	Class of Pavement.	Date When Laid.	Date Final Assessment Paid.
Abbs .....	Brock .....	West terminus ..	C.B. ....	1891	1896
Adelaide .....	York .....	Spadina .....	Asphalt ..	1892	1900
Afton .....	Lisgar .....	Northcote .....	Gravel ....	1898	1901
Alpine (late Walter)	Davenport ....	McMurrich .....	C. B. ....	1891	1897
Argyle .....	Dundas .....	Gladstone .....	" .....	1895	1900
Arthur .....	Bathurst .....	Euclid .....	" .....	1898	1903
Avenue Road ..	Davenport ....	North City limit ..	" .....	1890	1900
Baldwin .....	Beverley .....	Spadina .....	" .....	1895	1900
Baldwin .....	Beverley .....	McCaül .....	" .....	1897	1902
Barton .....	Manning .....	Euclid .....	" .....	1890	1900
Barton .....	Palmerston ..	Euclid .....	" .....	1892	1897
Barton (late Lowther).	Brunswick ....	Howland .....	" .....	1892	1898
Bathurst .....	S. s. of Bridge.	North Rly. Gate ..	" .....	1886	1897
Bathurst .....	College .....	Bloor .....	" .....	1884	1895
Bathurst .....	Front .....	Niagara .....	" .....	1898	1903
Bathurst .....	Bloor .....	C.P.R. ....	" .....	1890	1900
Bay .....	King .....	Queen .....	Asphalt ..	1891	1899
Beaconsfield ..	Queen .....	Afton .....	Gravel ....	1898	1901
Beaconsfield ..	Afton .....	Dundas .....	" .....	1898	1901
Belmont .....	Yonge .....	Davenport Rd. ....	C.B. ....	1887	1897
Beverley .....	Queen .....	College .....	Macadam ..	1896	1901
Birch .....	Yonge .....	West terminus ..	C. B. ....	1890	1900
Bismarek. ....	Yonge .....	Park Rd. ....	Macadam ..	1891	1897
Bismarek. ....	Park Rd. ....	East end .....	C. B. ....	1891	1897
Bleecker .....	Wellesley .....	Howard .....	" .....	1893	1898
Bleecker .....	Carlton .....	Wellesley .....	Asphalt ..	1894	1902
Blevins .....	Sumach .....	East end .....	C. B. ....	1896	1897
Bloor .....	Yonge .....	Avenue Rd. ....	Macadam ..	1889	1895
Bloor .....	Yonge .....	Sherbourne ....	Asphalt ....	1890	1900
Bloor .....	Bathurst .....	Clinton .....	C. B. ....	1889	1901
Bloor .....	Shaw .....	Dufferin .....	" .....	1890	1901
Bloor .....	Clinton .....	Shaw .....	" .....	1891	1901
Bloor .....	Dufferin .....	Lansdowne .....	" .....	1894	1901
Bolton .....	Queen .....	Gerrard .....	" .....	1898	1903
Booth .....	Queen .....	Eastern .....	" .....	1891	1896
Booth .....	Queen .....	G.T.R. ....	" .....	1889	1899
Broadview .....	Withrow .....	Danforth .....	" .....	1890	1898
Broadview .....	Queen .....	Gerrard .....	" .....	1887	1897
Broadview .....	Gerrard .....	Withrow .....	" .....	1887	1897
Broadview .....	Queen .....	Eastern .....	" .....	1891	1896
Brock .....	Queen .....	Dundas .....	Gravel ....	1898	1901
Brock .....	Logan .....	Howland .....	C. B. ....	1888	1898
Casimir .....	St. Patrick ....	North to a lane ..	" .....	1889	1898
Callendar .....	Queen .....	North terminus ..	" .....	1890	1898
Carlaw .....	Queen .....	Eastern .....	" .....	1889	1899

Street.	From	To	Class of Pavement.	Date When Laid.	Date Final Assessment Paid.
Carlaw . . . . .	Eastern . . . . .	Bay . . . . .	C. B. . . . .	1885	1897
Carlton . . . . .	Sackville . . . . .	Sumach . . . . .	Macadam . . . . .	1898	1903
Caroline . . . . .	Queen . . . . .	Eastern . . . . .	C. B. . . . .	1889	1899
Carr . . . . .	Esther . . . . .	End of Carr . . . . .	" . . . . .	1894	1899
Charles . . . . .	Church . . . . .	Jarvis . . . . .	" . . . . .	1897	1902
Christie . . . . .	Bloor . . . . .	Melville . . . . .	" . . . . .	1891	1898
Churchill . . . . .	Term. of Pav't. 136 ft. east . . . . .		" . . . . .	1893	1898
Clara . . . . .	Oak . . . . .	Orford . . . . .	" . . . . .	1886	1896
Clarence Square . . . . .	North, east and south sides . . . . .		" . . . . .	1898	1903
Classic Place . . . . .	Huron . . . . .	East end . . . . .	Macadam . . . . .	1897	1902
Clifford . . . . .	Stafford . . . . .	Strachan . . . . .	C. B. . . . .	1887	1897
Cluny . . . . .	Roxborough . . . . .	Crescent Rd. . . . .	" . . . . .	1891	1897
Colborne . . . . .	Church . . . . .	West Market . . . . .	" . . . . .	1898	1903
Collahie . . . . .	Gladstone . . . . .	Beaconsfield . . . . .	Gravel . . . . .	1899	1902
Cottingham . . . . .	Yonge . . . . .	Avenue Rd. . . . .	C. B. . . . .	1886	1896
Cottingham . . . . .	Rathnally . . . . .	Poplar Plains Rd. . . . .	" . . . . .	1889	1899
Crawford . . . . .	Queen . . . . .	Defoe . . . . .	" . . . . .	1890	1900
Crescent Rd. (late North Dr.)	Rosedale Rd. . . . .	Woodland . . . . .	" . . . . .	Yorkville	1897
Crocker . . . . .	Bellwoods . . . . .	Claremont . . . . .	" . . . . .	1890	1900
Czar . . . . .	Yonge . . . . .	North . . . . .	Asphalt . . . . .	1893	1901
D'Arcy . . . . .	McCaul . . . . .	Spadina . . . . .	C. B. . . . .	1895	1900
Darling . . . . .	North terminus . . . . .	End of sewer . . . . .	" . . . . .	1891	1896
Davenport Place . . . . .	Davenport Rd. . . . .	End of street . . . . .	" . . . . .	1888	1898
Davenport . . . . .	Yonge . . . . .	Hazelton . . . . .	Macadam . . . . .	1898	1903
Davies . . . . .	Queen . . . . .	Matilda . . . . .	C. B. . . . .	1894	1899
Defoe . . . . .	Teumseth . . . . .	Niagara . . . . .	" . . . . .	1890	1900
Delaware . . . . .	College . . . . .	Bloor . . . . .	" . . . . .	1892	1897
Delaware . . . . .	Bloor . . . . .	Van Horne . . . . .	" . . . . .	1891	1897
Devonshire Pl. . . . .	Hoskin . . . . .	Bloor . . . . .	Asphalt . . . . .	1892	1902
Dewson . . . . .	Ossington . . . . .	Dovercourt . . . . .	C. B. . . . .	1890	1900
Dorset . . . . .	King . . . . .	Wellington . . . . .	" . . . . .	1883	1894
Dovercourt . . . . .	Bloor . . . . .	Van Horne . . . . .	" . . . . .	1891	1901
Dovercourt . . . . .	Queen . . . . .	Dundas . . . . .	Gravel . . . . .	1898	1901
Dowling . . . . .	G.T.R. . . . .	Hawthorne . . . . .	C. B. . . . .	Parkdale	1897
Dufferin . . . . .	Peel . . . . .	Dundas . . . . .	Gravel . . . . .	1898	1901
Dufferin . . . . .	King . . . . .	G.T.R. Div. . . . .	C. B. . . . .	1889	1898
Dufferin . . . . .	Bloor . . . . .	Union . . . . .	" . . . . .	1891	1901
Dunn . . . . .	Queen . . . . .	Lake . . . . .	Gravel . . . . .	1898	1901
Dunbar . . . . .	Elm . . . . .	Hill . . . . .	C. B. . . . .	1890	1900
Dundas . . . . .	Sorauren . . . . .	Bloor . . . . .	" . . . . .	1893	1898
Dupont . . . . .	Bathurst . . . . .	Manning . . . . .	" . . . . .	1892	1897
Earl . . . . .	Sherbourne . . . . .	West terminus . . . . .	Asphalt . . . . .	1893	1898
Eambridge . . . . .	Birch . . . . .	East terminus . . . . .	C. B. . . . .	1888	1899
Elliott . . . . .	Broadview . . . . .	Bolton . . . . .	" . . . . .	1868	1903
Elm Grove . . . . .	King . . . . .	Queen . . . . .	Gravel . . . . .	1898	1901
Elm . . . . .	Yonge . . . . .	University . . . . .	Macadam . . . . .	1899	1902
Emily . . . . .	Brock . . . . .	Maude . . . . .	C. B. . . . .	1888	1899
Emily . . . . .	St. Clarens . . . . .	Brock . . . . .	" . . . . .	1888	1899

Street.	From	To	Class of Pavement.	Date When Laid.	Date Final Assessment Paid.
Empress Cr. (late Victoria Cr.)	Dowling .....	Jameson .....	C. B. ....	Parkdale	1897
Empress Cr. (late Victoria Cr.)	Dunn .....	Jameson. ....	" .....	1893	1898
Euclid .....	Arthur .....	College .....	" .....	1897	1902
Euclid .....	Bloor .....	Johnson .....	" .....	1890	1898
Euclid Place .....	Euclid Ave. ....	East terminus ..	" .....	1893	1899
Evans Ave. ....	Clinton .....	West terminus ..	" .....	1892	1898
Frankish .....	Brook .....	Sheridan .....	" .....	1890	1899
Frizzell .....	Carlaw .....	Pape .....	" .....	1891	1900
Front .....	Sherbourne ..	Trinity .....	Macadam ..	1899	1902
Front .....	George .....	Sherbourne .....	" .....	1899	1902
Foxley .....	Dundas .....	Dovercourt....	Gravel....	1898	1901
Gerrard .....	Broadview ...	Howland .....	C. B. ....	1888	1897
Gerrard .....	Jarvis .....	Sherbourne .....	Asphalt ..	1891	1901
Gerrard .....	Yonge .....	Jarvis .....	Macadam ..	1899	1902
Gildersleeve....	Sumach .....	East end .....	C. B. ....	1894	1899
Givens .....	College .....	Bloor .....	" .....	1890	1901
Givens .....	Queen .....	Argyle .....	Macadam ..	1898	1903
Gladstone. ....	Queen .....	Dundas .....	C. B. ....	1897	1902
Gordon .....	Sheridan .....	Dufferin .....	" .....	1891	1896
Gordon .....	Dale .....	Elm .....	" .....	1890	1899
Grace .....	Arthur .....	College .....	" .....	1891	1902
Grafton .....	Roncesvalles ..	East end .....	" .....	1891	1899
Grand Opera House Lane.	Adelaide .....	149 ft. south ...	Brick .....	1896	1902
Grange .....	Beverley .....	McCaul .....	Macadam ..	1900	1903
Grant .....	Kintyre .....	North terminus..	C. B. ....	1890	1900
Gwynne .....	King .....	Queen .....	" .....	1898	1903
Hallam late Brighton.)	Pape .....	East end .....	" .....	1890	1899
Halton .....	Shaw .....	Dundas .....	" .....	1892	1897
Hamburg Ave..	Bloor .....	Union .....	" .....	1891	1899
Hamilton .....	Paul .....	Elliott .....	" .....	1890	1899
Hamilton .....	Queen .....	Paul .....	" .....	1891	1896
Harbord .....	Huron .....	Bathurst .....	" .....	1897	1902
Harbord .....	St. George ..	Huron .....	Macadam ..	1898	1903
Harrison .....	Ossington .....	Lakeview Ave ..	C. B. ....	1889	1899
Henderson .....	Clinton .....	Grace .....	" .....	1891	1898
Herrick .....	Bathurst .....	Lippincott .....	" .....	1892	1897
Heward Ave. ....	Queen .....	Eastern Ave. ....	" .....	1889	1899
High Park Ave.	Roncesvalles ..	High Park .....	" .....	1893	1899
Howard Park Av	Dundas .....	Roncesvalles .....	" .....	1891	1901
Howe .....	Clark .....	North end .....	" .....	1889	1899
Humbert .....	Dovercourt....	Dundas .....	" .....	1898	1903
Huntley .....	Bloor .....	Elm .....	" .....	1890	1900
Huron .....	Phoebe .....	Grange Ave. ....	" .....	1893	1898
Isabella .....	Sherbourne ..	Jarvis .....	Macadam ..	1898	1901

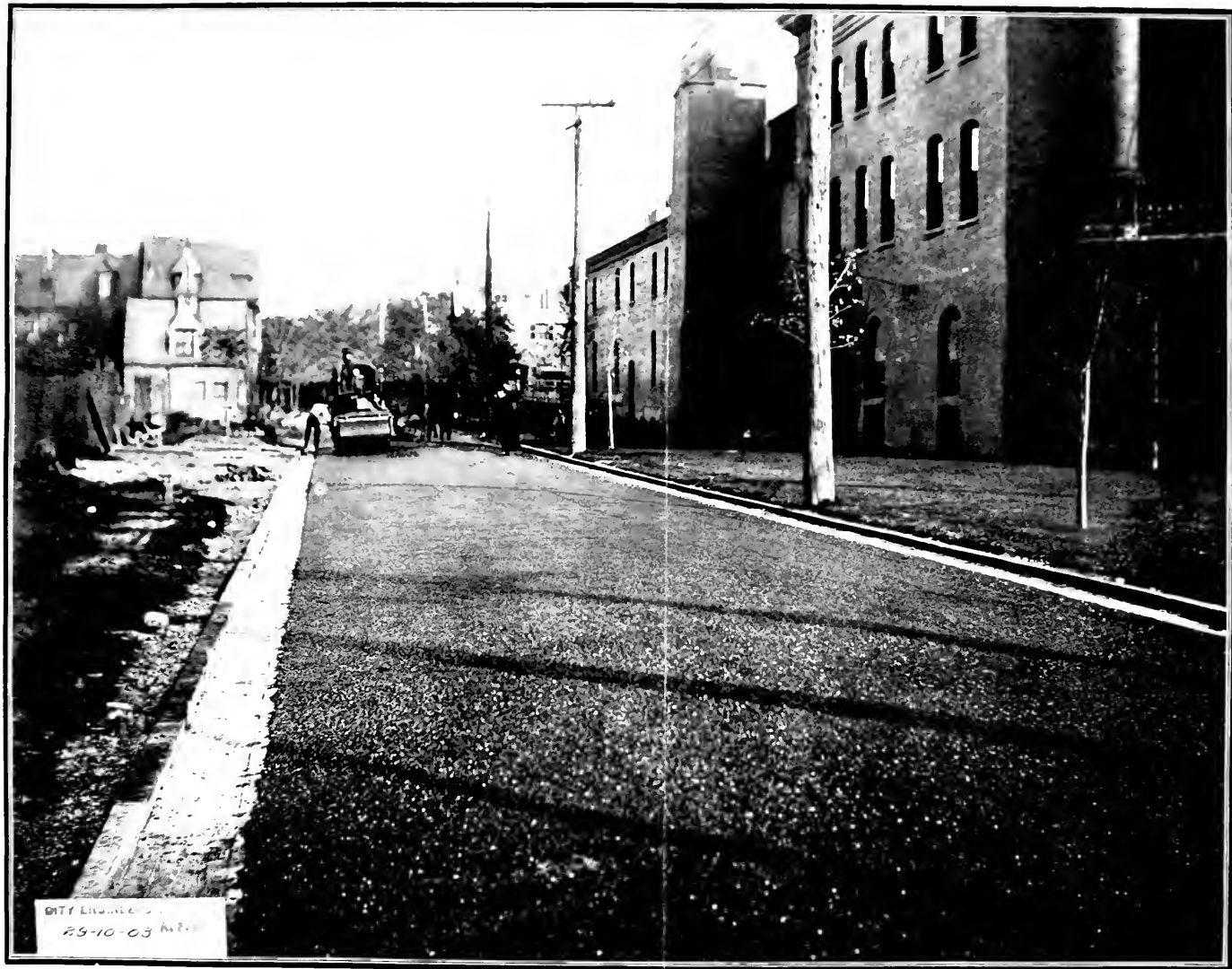
Street.	From	To	Class of Pavement.	Date When Laid.	Date Final Assessmt Paid.
Jarvis .....	King .....	Queen .....	Macadam ..	1896	1899
Jarvis .....	Queen .....	Bloor .....	Asphalt ..	1889	1899
John .....	King .....	Queen .....	C. B. ....	1890	1900
John .....	King .....	Front .....	Macadam ..	1895	1899
John .....	Bridge .....	Lake .....	" .....	1898	1903
Jordan .....	Wellington....	King .....	Asphalt ..	1891	1899
King .....	Sherbourne ..	Berkeley.....	C. B. ....	1883	1894
King .....	Dufferin .....	3,000 ft. easterly.	Tamarac ..	1891	1899
King .....	Simcoe .....	Sherbourne. ....	Asphalt ..	1893	1903
Lane between St. Patrick and D'Arcy	Huron .....	Beverley.....	C. B. ....	1892	1897
Lane s. of Pearl	Near Simcoe ..	.....	Cobble ..	1892	1897
Lane e. of Spadina. ....	Grange .....	St. Patrick .....	" .....	1892	1897
Lane bet. Duke and Duchess.	Ontario .....	West terminus ..	C. B. ....	1886	1896
Lane s. of Pearl.	Simcoe .....	York .....	Cobble. ..	1892	1897
Lane bet. Yonge and Victoria.	Gould .....	Wilton .....	" .....	1887	1897
Lane bet. Yonge and Victoria.	Adelaide. ....	106 ft. south ....	" .....	1892	1897
Lane bet. York and Simcoe.	n. of Pearl....	Near Adelaide ..	C. B. ....	1888	1898
Lane 1st n. of Queen.	Mutual .....	Jarvis .....	" .....	1888	1898
Lane n. of Wilton Crescent.	Pembroke ....	George .....	" .....	1888	1898
Lane bet. Queen and Richmond	Church .....	East terminus ..	Cobble ..	1888	1898
Lane s. of Queen	Tecumseth . . .	Niagara .....	" .....	1893	1898
Lane rear of John.	Adelaide ....	Lane n. of Arlington Hotel.	C. B. ....	1892	1898
Lane e. of Bay..	Wellington....	214 ft. south . . .	" .....	1888	1899
Lane 1st e. of Bay	Wellington....	Melinda .....	Concrete..	1895	1900
Lane n. of Foxley.	Foxley .....	135 ft. north ....	C. B. ....	1889	1899
Lane 1st s. of Queen.	Simcoe .....	Duncan .....	" .....	1889	1899
Lane bet. Borden and Lippincott	Ulster .....	Bloor .....	" .....	1891	1896
Lane in rear of	Standard Bank	.....	Scoria ....	1892	1902
Lane in rear of	Inland Revenue Office	.....	Asphalt ..	1893	1901
Lansdowne (late Jameson.)	Queen .....	Union .....	Gravel....	1898	1901
Lansdowne (late Jameson.)	Dundas .....	Bloor .....	C. B. ....	1889	1899
Lansdowne ....	Dundas .....	Shirley .....	" .....	1888	1898
Leslie. ....	Queen .....	Ashbridge's Bay .	" .....	1891	1901
Linden .....	Sherbourne. ..	Huntley .....	Asphalt ..	1893	1901

Street.	From	To	Class of Pavement.	Date When Laid.	Date Final Assessment Paid.
Lisgar .....	Queen .....	Afton .....	Gravel....	1897	1900
Lisgar .....	Dundas .....	Afton .....	" .....	1898	1901
Lobb .....	Shaw .....	Crawford .....	C. B. ....	1890	1900
Logan Ave. ....	Queen .....	Ashbridge's Bay .....	" .....	1889	1898
Logan Ave. ....	Gerrard .....	Danforth .....	" .....	1889	1899
Lorne. ....	Front .....	Esplanade.....	" .....	1890	1899
May (late Bruce)	Shaw .....	Givens.....	" .....	1892	1897
McCaul .....	Queen .....	College .....	" .....	1898	1903
McDonnell .....	Queen .....	2,826 ft. north ..	Gravel....	1898	1901
McDonnell Sq..	Bathurst .....	Defoe .....	Macadam ..	1900	1903
McMaster.....	Avenue Rd....	Rathnally .....	C. B. ....	1890	1900
McPherson .....	Avenue Rd....	Rathnally .....	" .....	1890	1900
McPherson .....	Rathnally .....	Poplar Plains Rd..	" .....	1890	1901
Manning Ave....	Robinson .....	Queen .....	" .....	1889	1898
Manning Ave. .	Bloor .....	Hammond Pl....	" .....	1890	1900
Mansfield Ave..	Manning .....	Clinton .....	" .....	1893	1898
Mansfield Ave..	Bellwoods .....	Grace .....	" .....	1893	1899
Marion .....	Lansdowne .....	McDonnell .....	" .....	1891	1899
Markham .....	Harbord .....	Bloor .....	" .....	1889	1898
Massey .....	King .....	Queen .....	" .....	1891	1897
Maude .....	Adelaide .....	Farley .....	" .....	1887	1897
Marion (late Lennox).	Roncesvalles ..	East limit .....	" .....	Parkdale	1897
Melbourne .....	Cowan .....	Dufferin .....	Gravel....	1897	1900
Melinda .....	Yonge .....	Bay .....	Asphalt ..	1891	1899
Meredith (late Kensington Cr)	Park Rd....	Huntley .....	C. B. ....	1891	1896
Millstone Lane .	York .....	East end.....	" .....	1889	1899
Munn's Lane ..	Wellington .....	218 ft. north ..	Asphalt ..	1893	1901
Murray. ....	Caer Howell ..	North end .....	C. B. ....	1898	1903
Napier .....	Munro.....	Lane .....	" .....	1891	1896
New .....	Davenport Rd.	West end .....	" .....	1889	1899
Niagara.....	King .....	Queen .....	" .....	1887	1897
North .....	St. Mary .....	Bloor .....	Macadam ..	1900	1903
Northcote.....	Queen .....	Afton .....	C. B. ....	1895	1900
Northumberland	Ossington .....	Preston .....	" .....	1893	1898
O'Hara .....	1,605 ft. n. of Queen.	Railway tracks ..	" .....	1892	1897
O'Hara .....	Queen .....	1,455 ft. north ..	Gravel....	1898	1901
Olive .....	Bathurst .....	Palmerston .....	C. B. ....	1893	1898
Ontario Place ..	Ontario .....	270 ft. west .....	" .....	1886	1896
Ontario. ....	Carlton .....	Howard .....	Asphalt ..	1890	1900
Osbourne (late Lucas).	Sorauren .....	Roncesvalles .....	C. B. ....	1892	1897
Osler (late Edmund).	Royce .....	C.P.R.....	" .....	1892	1898
Ossington .....	Bloor .....	C.P.R.....	" .....	1892	1897
Ossington.....	Harrison .....	College .....	" .....	1888	1899
Ottawa .....	Shaftesbury Av	Summerhill Ave.	" .....	1889	1899
Oxford .....	Augusta .....	Spadina .....	" .....	1895	1900



Street	From	To	Class of Pavement.	Date When Laid.	Date Final Assessment Paid.
Palmerston Ave.	Bloor .....	Union .....	C. B. ....	1890	1899
Pape Ave. ....	Queen .....	Danforth .....	" .....	1887	1897
Park Rd. (late Woodland).	North Drive ..	Park Rd. ....	" .....	Yorkville	1897
Parkview .....	Wellesley ....	North terminus .	" .....	1889	1899
Parliament .....	Wellesley ....	Howard .....	" .....	1888	1895
Peel .....	Gladstone .....	Dufferin .....	Gravel ....	1898	1901
Pembroke .....	Shuter .....	Wilton .....	Macadam ..	1899	1902
Perth Ave. ....	Bloor .....	Boyce .....	C. B. ....	1893	1898
Peter .....	Front .....	Wellington .....	" .....	1886	1897
Peter .....	King .....	Queen. ....	" .....	1890	1900
Pine Hill Rd. .	Rosedale Rd. .	West end .....	Macadam ..	1894	1899
Poulett (late Sydenham La).	Sydenham. ....	South terminus..	C. B. ....	1890	1896
Prospect .....	Rose .....	Ontario .....	" .....	1889	1899
Queen, raising at	Garrison Creek	Hollow .....	" .....	1891	1901
Queen .....	Gladstone ..	Niagara .....	" .....	1898	1903
Queen's Park Drive.	Queen's Park Crescent.	Bloor .....	Macadam ..	1898	1903
Rathnally .....	Rathnally Cres.	McPherson Ave..	C. B. ....	1890	1900
Renfrew Pl. ....	McCaul .....	East end .....	" .....	1889	1899
Richmond Pl. .	Richmond .....	South end .....	" .....	1886	1896
Richmond .....	Victoria .....	Bay .....	Asphalt ..	1893	1901
Richmond .....	Bay .....	York .....	Macadam ..	1897	1900
Robinson .....	Palmerston ..	Euclid .....	C. B. ....	1886	1896
Roncesvalles ..	Queen .....	Dundas .....	" .....	1890	1900
Roncesvalles ..	Pr'st. City limit	Dundas .....	" .....	1890	1900
Rose Ave. ....	Howard .....	Winchester ..	Asphalt ..	1892	1900
Roseberry Ave.	Bathurst .....	End. ....	C. B. ....	1894	1899
Rossin House Lane	York .....	East end .....	Cobble ..	1891	1897
Rosedale Rd. .	Park Rd. ....	667 ft. s. Crescent Rd.	C. B. ....	Yorkville	1897
Roxborough. .	Yonge .....	1,328 ft. west. .	" .....	1892	1897
Roxborough. .	Yonge .....	2,180 ft. east .	" .....	1891	1900
Royce Ave. ....	Synington Ave	C.P.R. ....	" .....	1893	1898
Rush Lane .....	Esther .....	Portland .....	" .....	1890	1900
Rusholme Rd. .	College .....	Bloor .....	" .....	1890	1900
Russell .....	Robert .....	Spadina .....	" .....	1889	1898
St. Albans .....	Surrey .....	Queen's Park ..	Macadam ..	1898	1903
St. Clarens Ave.	Emily .....	Dundas .....	C. B. ....	1889	1898
St. Clarens .....	Dundas .....	College .....	" .....	1890	1900
St. George .....	Bloor .....	Bernard .....	Asphalt ..	1889	1899
St. George .....	Bernard .....	Dupont .....	" .....	1890	1899
St. George .....	College .....	Bloor .....	" .....	1891	1901
St. James Ave. .	Ontario .....	Parliament .....	" .....	1892	1899
St. Nicholas (late Brownsville Av	St. Joseph ....	St. Albans .....	C. B. ....	1889	1900
St. Patrick .....	Beverley .....	Spadina .....	" .....	1895	1900
St. Patrick .....	Bathurst .....	Denison .....	" .....	1898	1903

Street	From	To	Class of Pavement.	Date When Laid.	Date Final Assessment paid.
Salisbury Ave..	Sackville.....	East terminus ..	C. B. ....	1886	1897
Salisbury Ave..	Sackville .....	190 ft. west.....	" .....	1890	1899
Saunders .....	Sorauren .....	Fuller .....	" .....	1888	1898
Scollard .....	Yonge .....	Hazelton .....	" brick in tracks	1898	1903
Scott .....	Front .....	Colborne .....	Asphalt ..	1890	1900
Shannon .....	Ossington .....	Dovercourt.....	C. B. ....	1887	1897
Shaw .....	College .....	Bloor .....	" .....	1893	1898
Shaw .....	Queen .....	Defoe .....	" .....	1891	1901
Shaw .....	Queen .....	Arthur .....	" .....	1898	1903
Shaftesbury Av.	Yonge .....	1,100 ft. easterly.	" .....	1890	1899
Seaforth (late Brown).	Brock .....	West terminus ..	" .....	1891	1896
Sheppard .....	Adelaide .....	Richmond .....	Macadam ..	1895	1899
Sherbourne .....	Bridge .....	South Drive .....	Asphalt ..	1891	1901
Sherbourne .....	King .....	Queen .....	" .....	1890	1899
Sherbourne .....	Queen .....	Bloor .....	" .....	1889	1899
Shirley .....	Brock .....	Lansdowne..	C. B. ....	1891	1898
Simcoe .....	Front .....	Station .....	" .....	1896	1901
Simcoe .....	King .....	Queen .....	Asphalt ..	1890	1900
Sorauren .....	Wright .....	Dundas .....	C. B. ....	1890	1899
South Drive....	Crescent Rd ..	Scarth Rd .....	Macadam ..	1893	1898
Spadina .....	College .....	Crescent .....	C. B. ....	1890	1898
Spadina Rd .....	Bernard .....	C.P.R. ....	" .....	1891	1901
Stafford .....	King .....	Defoe .....	" .....	1886	1896
Stafford .....	Defoe .....	Clifford .....	" .....	1887	1897
Stafford .....	King .....	Wellington .....	" .....	1890	1900
Sumach .....	King .....	Eastern .....	" .....	1890	1899
Temperance ...	Yonge .....	Bay .....	Macadam ..	1896	1899
Terauley .....	Queen .....	Albert .....	" .....	1898	1903
Thompson .....	Davies .....	Munro .....	C. B. ....	1890	1900
Tiverton (late East).	First Av .....	South Av .....	" .....	1891	1901
Toronto .....	North of King.	Adelaide .....	Asphalt ..	1892	1897
Triller .....	Queen .....	Harvard .....	C.B. ....	1889	1899
Tyndall .....	King .....	Springhurst .....	Macadam ..	1898	1903
Ulster .....	Bathurst .....	Markham .....	C. B. ....	1894	1899
Vanauley .....	Queen .....	Grange .....	" .....	1886	1897
Vanauley .....	St. Patrick....	St. Andrews....	" .....	1887	1897
Victoria Lane ..	Queen .....	Shuter .....	Cobble ..	1890	1899
Virtue .....	Sorauren .....	East terminus ..	C. B. ....	1890	1900
Victoria .....	King .....	Adelaide .....	Asphalt ..	1892	1900
Vermont .....	Bathurst .....	Manning.....	C. B. ....	1891	1896
Walmer Rd .....	Bloor .....	Lowther .....	" .....	1897	1902
Walmer Rd .....	Lowther .....	Castle .....	" .....	1898	1903
Walker .....	Yonge .....	West limit .....	" .....	1888	1899
Wascana .....	Sumach .....	186 ft. east.....	" .....	1891	1896
Wellesley Cr. ...	Sherbourne .....	Jarvis .....	Macadam ..	1898	1901
Wellesley .....	Sumach .....	300 ft. east.....	C. B. ....	1889	1899



ORCHARD STREET TAR MACADAM.



Street	From	To	Class of Pavement.	Date When Laid.	Date Final Assessment Paid.
Wellington Av. (late Douro).	Bathurst .....	East terminus....	C. B. . . .	1891	1901
Wellington .....	Church .....	Yonge .....	Asphalt ..	1889	1899
Wellington .....	Bay .....	York .....	" ..	1891	1899
Westmoreland..	Durham .....	Union .....	C. B. ....	1890	1900
Westmoreland..	Bloor .....	Durham .....	" .....	1890	1900
Wilkins .....	King .....	North terminus..	" .....	1888	1899
Winchester .....	Parliament .....	Sumach .....	Asphalt ..	1893	1901
Withrow .....	Broadview .....	1,060 ft. east....	C. B. ....	1889	1898
Woodlawn .....	Yonge .....	West end .....	" .....	1891	1901
Woolfrey .....	Broadview .....	Bowden .....	" .....	1888	1899
Wright .....	McDonnell....	Sorauren .....	" .....	1891	1899
Wyatt .....	Sumach .....	River .....	" .....	1889	1898
Wyndham (late Maude).	Emily .....	Brock .....	" .....	1889	1899
Yonge .....	Grenville .....	Bloor .....	Asphalt ..	1892	1902
Yonge .....	King .....	Hayter .....	" ..	1892	1902
Yonge .....	Hayter .....	Grenville .....	" ..	1892	1902
Yorkville .....	Yonge ..	Avenue Rd. ....	C. B. ....	1896	1901

## TAR MACADAM ROADWAYS.

Owing to the continued increase in the number of these roadways constructed I decided last year to separate this class of pavement from macadam roadways so as to give it special notice. This year there has been another decided increase in the number, and while even yet we are more or less in the experimental stage as far as the permanency of the roadway is concerned, still the results achieved (with one exception) indicate that it is a great improvement on the ordinary macadam for residential streets with light traffic.

We have perhaps made a mistake in placing this class of pavement on streets with street car tracks, which are usually streets with a moderate degree of heavy traffic, even when in the residence sections of the City; but the one failure in the construction of this pavement is, in my opinion, due to structural defects rather than traffic, as the surface coat did not bind and pack as it should, the result being a large number of holes and pockets in which the tar and paving pitch mixture showed no adhesiveness. The stone used was the very best for the purpose and the binding materials passed very good tests, so we were forced to either one or both of the following conclusions as the cause of the defects in the pavement: 1. The con-

tractor had not previously constructed a tar macadam pavement, had inexperienced hands and no mechanical mixing machinery, the mixing being done on sheet-iron boards in the same manner as concrete. 2. The stone was heated around flue heaters and some parts of a batch would naturally be hotter than other parts, and the tar and paving-pitch mixture was heated in a large kettle. These were mixed on sheet iron boards by shovelling in heaps and turning, the result being that some stones being cooler than others would have more of the binding mixture adhere to them and would consequently pack together, while the rest would not have sufficient to form a bond and when cool would crumble under traffic, if the heated state of the stone did not entirely burn the "life" out of the binding mixture and destroy its value altogether.

My own opinion is that the stone should only be dried so as to permit as much of the mixture as possible to adhere to it, for the stone when heated permits only a thin coating to adhere.

Other pavements constructed where this method has been followed have resulted in good pavements.

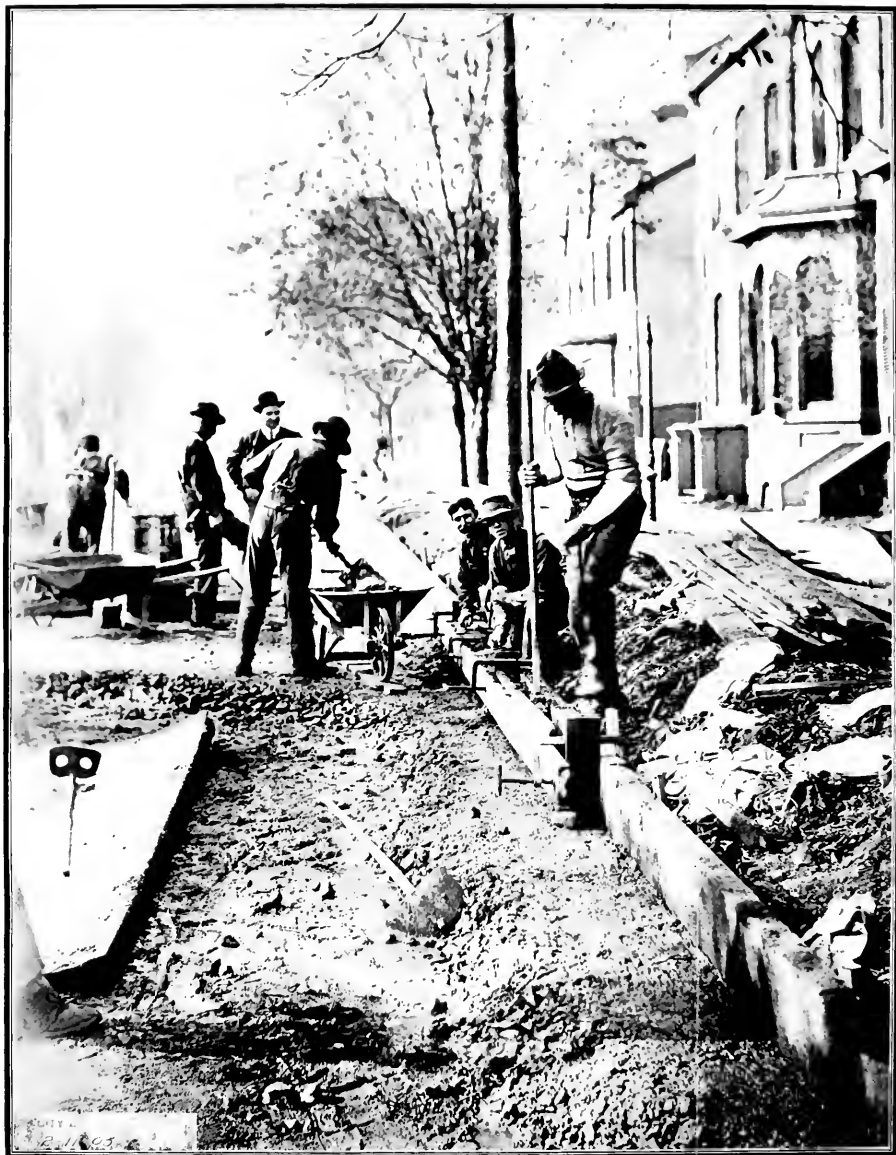
From many engineering and sanitary view-points this pavement is much superior to ordinary macadam and should have a much longer wearing existence when constructed with proper materials and care.

The brick gutters constructed in connection with tar macadam pavements last year proved to be so satisfactory that we have continued the use of them, and even used the brick gutters on several ordinary macadam roadways where the grade was sufficiently steep to cause the water to wash away the bonding qualities of the macadam in the gutters.

One tar macadam pavement was constructed in 1900, one in 1901, six in 1902, and eleven in 1903.

The length of tar macadam roadways constructed during the year totals 2.148 miles compared with 0.867 miles in 1902 and 0.054 miles in 1901.

In constructing tar macadam roadways, 17,520 lineal feet of stone curb and 2,636 lineal feet of wood curb were placed. Tables Nos. 7 and 8 show details of the tar macadam pavements.



WILTON AVENUE CONCRETE CURB.





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#### MACADAM (BROKEN STONE) ROADWAYS.

In 1902 a considerable amount of this class of roadway was constructed, a total length of 4.619 miles, which was considerably in excess of the amount for previous years, and in the report for that year I accounted for this because of the cheapness of this class of roadway, as it is undesirable for a number of reasons. This year a reaction seems to have set in against the macadam road, the result being that only 2.787 miles were constructed. Certain sections of the City seem to favor macadam, but it certainly is not a suitable roadway except for outlying streets.

In constructing macadam roadway 10,737 lineal feet of stone curb and 15,849 lineal feet of wood curb were placed. Tables Nos. 7 and 8 show details of the macadam roadways.

#### CONCRETE PAVEMENTS.

Two such pavements have been constructed during the year, one on Francis St., on which there is considerable heavy traffic, and the other on McFarren's Lane.

This pavement as constructed by us consists of a four-inch concrete foundation, similar to that used in constructing asphalt or brick pavements, with a wearing surface of two and one-half inches of concrete composed of one part of cement, one part of sand and three parts of fairly coarse crushed granite. These two courses are carried on together, as in constructing sidewalks, so as to secure a perfect bond between them. The surface is finished by "floating" with wooden "floats," and then a deep groove is used to cut the surface into blocks five inches by ten inches to give a better foothold for horses, about fifteen inches along the curbs being left smooth to provide free drainage for surface water. The pavement is cut into sections of about twenty feet in length, with a three-quarter inch joint of paving pitch, to provide for expansion and contraction and to prevent cracking or heaving, the pitch joint being also used along each curb, which on a pavement twenty feet in width cuts the paved portion into separate blocks twenty feet square.

It seems to make a very satisfactory pavement and its use could safely be extended on short streets and lanes. Besides being durable it is easily cleaned and very satisfactory from a sanitary standpoint. It is cheaper than brick or asphalt, and when laid with a view to prevent cracking, should be equally as durable as either of the above.

A start was made in replacing the old asphalt in the McCaul St. track allowance with concrete, but the cold weather coming on earlier than usual, this work was stopped.

#### CEMENT CONCRETE WALKS.

The increase in these works during the past five years has been quite phenomenal, the increase being from 5.766 miles in 1899 to 34.989 miles this year, the gain over 1902 being 7.58 miles. No brick walks were constructed as contract works, the two constructed being private contracts, both being laid in Rosedale. In constructing concrete walks 1,328 lineal feet of stone curb were placed and 66,430 lineal feet of concrete curb constructed.

The total length of cement concrete and brick sidewalks in the City is now 118.691 miles.

#### DAY LABOR WORKS.

During the year thirty-five concrete walks were constructed by day labor (including the Island walks), for thirty of which the City Engineer's tenders were accepted. Four were done without tenders and one was taken from a contractor, because of delay, and was constructed by day labor. The walks constructed by day labor aggregate 4.847 miles, being one-half a mile greater than 1902, and the greatest amount of day labor walks constructed in one year.

In comparing the costs of these works we have taken the lowest local contractor's tender as a basis for comparison on the walks for which tenders were called. The net saving on walks constructed by day labor is \$4,352.88.

Table No. 9 gives the lengths, widths, amount of City's tender, the next lowest tender, the actual cost of the work and the loss or gain in comparison with contractors' tenders. The real saving is not apparent as the actual saving is that shown plus the Inspector's time always incurred on contract works.

During the year we were awarded contracts by tender for the construction of four macadam roadways, two concrete pavements, one brick pavement, one asphalt block pavement and one wood curb contract; one macadam was given us by order of Council, and one macadam was taken from a contractor because of delay and constructed by day labor, making a total of eleven contracts (outside of walks) constructed during the year by day labor.

DETAILED ANALYSIS OF ASPHALTS AND ASPHALT MIXTURES, 1963.

Street	From	To	Contractor	Asphalt used	Bitumen in Surface Mixture, Penetration of Asphaltic Ce- ment. (Dow's Machine)	Refined Asphalt										Sand Grading					Inorganic Dust Grading							
						Physical Exam- ination		Chemical Analysis				On No. 10 Sieve	Pass No. 10 Sieve	Pass No. 20 Sieve	Pass No. 30 Sieve	Pass No. 40 Sieve	Pass No. 50 Sieve	Pass No. 60 Sieve	Pass No. 100 Sieve	On No. 40 Sieve	Pass No. 60 Sieve	Pass No. 80 Sieve	Pass No. 100 Sieve	Pass No. 200 Sieve				
						Specific Gravity	Flowing Point	Bitumen		Non-Bituminous Organic matter	Inorganic matter																	
								Petroleum	Asphaltene																			
Barton Ave.	Howland Ave.	Albany Ave.	Barber Asphalt Co.	Trinidad "Pitch Lake"	9.43	68	1.3982	196°F	86.28	12.04	1.42	0.26	0.3	0.5	0.5	2.0	7.0	25.0	15.0	34.0	16.0	0.0	2.0	4.0	17.0			
Bathurst St.	Queen St.	College St.	Warren Bituminous Ptg Co.	California "Warren's Acme"	9.21	90	.....	.....	87.33	12.53	0.95	0.09	0.0	2.7	2.8	4.8	12.9	32.7	10.0	29.5	13.5	10.5	8.0	4.7	15.6			
Bedford Rd.	Bernard Ave.	Davenport Rd.	"	"	9.66	73	.....	.....	.....	.....	.....	.....	.....	2.0	2.0	4.0	15.5	31.5	16.5	29.5	13.0	16.0	10.0	4.0	19.0			
Bishop St.	Davenport Rd.	419 feet west	Constructing and Paving Co.	California "Angelus"	9.68	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....			
Blair St.	Walmer Rd.	Bathurst St.	Warren Bituminous Ptg Co.	"Warren's Acme"	9.61	83	.....	.....	79.02	19.07	1.32	0.59	1.3	3.3	3.0	4.2	10.5	33.7	13.0	17.2	13.8	13.3	9.7	7.0	21.0			
Chicora Ave.	Avenue Rd.	Bedford Rd.	Constructing and Paving Co.	"Angelus"	9.97	38	.....	.....	73.43	24.34	1.10	1.13	0.0	4.0	7.0	10.0	13.0	27.5	10.5	16.5	11.5	2.0	4.0	6.0	12.0			
Clinton St.	Bloor St.	889 feet south	Warren Bituminous Ptg Co.	"Warren's Acme"	9.31	75	.....	.....	.....	.....	.....	.....	.....	3.0	5.0	7.0	19.0	41.0	9.5	10.0	5.0	12.0	8.0	7.0	21.0			
College St.	Yonge St.	Beverly St.	"	"	9.35	94	.....	.....	83.88	14.49	1.28	0.35	1.8	3.2	3.4	5.5	14.4	32.5	9.9	19.0	10.0	4.5	7.3	11.1	21.0			
Duke St.	Sherbourne St.	Jarvis St.	Barber Asphalt Co.	Trinidad "Pitch Lake"	9.44	56	1.3793	185°	41.60	14.79	10.08	33.53	0.0	0.0	1.0	2.0	7.2	30.5	15.0	29.5	10.5	0.8	7.0	4.0	6.7			
Elm Ave.	Sherbourne St.	Huntley St.	Warren Bituminous Ptg Co.	California "Warren's Acme"	9.58	102	.....	.....	.....	.....	.....	.....	.....	0.5	4.5	2.0	4.0	29.0	14.0	29.5	10.5	0.8	7.0	4.0	6.7			
Fern Ave.	Roncesvalles Ave.	Sorauren Ave.	"	"	9.85	89	.....	.....	87.33	12.53	0.95	0.09	0.5	2.5	4.5	6.5	18.0	35.5	8.5	17.0	6.0	29.0	12.0	6.0	15.0			
Fern Ave.	Sorauren Ave.	Macdonell Ave.	"	"	10.06	91	.....	.....	87.33	12.53	0.95	0.09	2.5	7.0	8.0	11.0	24.0	29.5	4.0	7.5	6.5	25.0	9.0	6.5	12.0			
George St.	Queen St.	Gerrard St.	Barber Asphalt Co.	Trinidad "Pitch Lake"	9.81	63	1.3792	190°	41.16	14.44	10.11	34.29	0.0	0.7	1.5	2.5	6.8	26.3	14.7	33.0	14.5	0.0	2.5	4.0	7.0			
King St.	Dufferin St.	Queen St.	Warren Bituminous Ptg Co.	California "Warren's Acme"	9.52	69	.....	.....	84.75	14.81	0.25	0.19	2.7	3.6	3.8	5.1	10.5	34.8	10.4	15.1	14.0	12.3	9.0	7.0	21.0			
Lowther Ave.	Spadina Rd.	West end	Barber Asphalt Co.	Trinidad "Pitch Lake"	10.02	57	.....	.....	.....	.....	.....	.....	.....	0.3	1.6	1.2	3.0	8.3	25.2	14.3	29.0	17.7	0.0	3.5	5.0	14.0		
Montague Pl.	Homewood Ave.	West end	"	"	10.00	60	1.3727	180°	39.29	18.87	7.91	33.93	0.0	1.5	4.0	5.0	8.0	27.0	14.0	21.5	19.0	6.0	6.0	3.0	5.0			
Parliament St.	Carlton St.	Winchester St.	Warren Bituminous Ptg Co.	California "Warren's Acme"	9.42	70	.....	.....	.....	.....	.....	.....	.....	0.5	3.0	4.5	6.5	16.0	43.5	9.0	11.5	5.5	24.0	8.0	10.0			
Phoebe St.	Beverly St.	Soho St.	Barber Asphalt Co.	Trinidad "Pitch Lake"	9.20	48	1.3727	180°	39.29	18.87	7.91	33.93	0.0	0.5	0.5	2.0	6.5	29.5	15.0	39.5	14.5	0.0	3.0	5.0	14.0			
Simcoe St.	Queen St.	Caer Howell St.	Constructing and Paving Co.	Venezuelan and Trinidad	9.82	44	.....	.....	61.48	34.30	3.01	1.21	0.0	1.3	4.0	9.5	14.7	31.0	12.7	16.3	19.5	16.0	13.0	5.0	18.0			
Spadina Ave.	College St.	Knox College Cres.	Barber Asphalt Co.	Trinidad "Pitch Lake"	9.84	40	1.4262	220°	55.60	22.25	2.43	39.72	0.0	1.0	1.0	2.0	8.5	32.0	14.0	26.0	15.5	0.0	4.0	6.0	24.0			
Spadina Rd.	Bernard Ave.	Dupont St.	Constructing and Paving Co.	Venezuelan and Trinidad	9.64	42	1.3727	.....	39.29	18.87	7.91	33.93	0.0	0.5	1.0	2.5	7.0	29.0	13.0	31.5	13.5	8.0	14.0	8.0	21.0			
Sullivan St.	Beverly St.	Spadina Ave.	Barber Asphalt Co.	Trinidad "Pitch Lake"	10.05	54	1.3727	180°	39.29	18.87	7.91	33.93	0.0	0.5	1.5	3.0	34.0	15.5	25.0	11.5	0.0	2.0	3.0	14.0	21.0			
Wilson Ave.	King St.	Queen St.	"	"	9.51	54	1.3770	185°	.....	.....	.....	.....	.....	0.0	0.5	2.0	6.5	39.5	15.0	39.5	14.5	0.0	3.0	5.0	14.0			
Wilton Ave.	Yonge St.	George St.	"	"	10.50	52	1.4060	190°	41.62	14.57	10.59	33.22	0.5	2.7	4.0	5.3	10.5	29.3	12.0	21.0	14.7	0.0	3.5	3.0	16.0			
Yonge St.	Davenport Rd.	C.P.R. Tracks	Constructing and Paving Co.	"	9.18	59	1.3954	195°	55.86	22.35	3.88	37.91	0.0	1.2	3.5	6.8	13.5	35.0	11.0	19.7	9.3	10.0	16.0	6.3	21.0			
Asphalt repairs	.....	.....	Barber Asphalt Co.	"	9.38	50°	1.3966	196°	36.08	21.54	3.48	33.90	0.5	0.9	1.9	2.2	7.3	29.6	16.2	27.0	14.9	0.3	3.0	3.7	16.7			
					263 Tests.	.....	.....	.....	.....	.....	.....	.....	.....	46 Tests.										46 Tests.				



A list of these, giving class of pavements, lengths, square yards, the City's tender, the next lowest tender, actual cost of work, etc., is given in Table No. 10. A comparison shows the loss or gain as compared with the contractor's tender. The difference in favor of the City shows a gain to the property-owners of \$2,033.90, to which should also be added the cost of inspection which would have been incurred had these been done by a contractor.

In addition to the amounts mentioned above as being saved, we also claim credit for a saving of \$1,698 made where our tenders were the lowest on 23 roadway and sidewalk contracts, and which were accepted by the contractors at our figures, the saving mentioned being the difference in the tenders.

Table No. 7 shows in detail all the pavements, roadways and permanent sidewalks constructed during the year. Table No. 11 shows the amount (in miles) of concrete and brick walks constructed in the City from the year 1899. A reference to this table will show that the walks constructed during the past two years are 111.0 per cent. of the total up to the end of 1901, and 52.6 per cent. of the total constructed to date. Table No. 12 gives in detail the number of local improvement works constructed from 1892 to 1903 inclusive.

Respectfully submitted,

CHAS. W. DILL,

*Assistant Engineer.*

TABLE No. 7.

## ASPHALT.

Street.	From.	To.	Width.	Length.
			feet.	lin. ft.
Bedford Rd .....	Bernard .....	Davenport .....	24	338
Bathurst .....	Queen .....	College .....	26	3,523.5
Barton .....	Howland .....	Albany .....	24	302.5
Bishop .....	Davenport .....	419 ft. west .....	20	405.5
Bloor .....	Walmer .....	Bathurst .....	26	1,540
College .....	Yonge .....	Beverley .....	28	3,484
Chicora .....	Avenue .....	Bedford .....	24	766
Clinton .....	Bloor .....	889 ft. south .....	24	889
Duke .....	Jarvis .....	Sherbourne .....	30	960
Elm .....	Huntley .....	Sherbourne .....	24	575.6
Fern .....	Sorauren .....	Roncesvalles .....	20	1,356
Fern .....	Sorauren .....	McDonnell .....	20	767.3
George .....	Queen .....	Gerrard .....	24	2,484.7
King .....	Dufferin .....	Queen .....	23	5,289.5
Lowther .....	St. George .....	Spadina Rd. ....	24	900.5
Montagu Pl .....	Homewood .....	285½ ft. west .....	21	285.5
Phoebe .....	Soho .....	Beverley .....	20	274
Parliament .....	Carlton .....	Winchester .....	26	531
Simcoe .....	Queen .....	Caer Howell .....	24	2,030.3
Spadina Rd .....	Bernard .....	Dupont .....	24	1,017.5
Spadina Ave. ....	College .....	Spadina Cr. ....	36½	335
Sullivan .....	Spadina .....	Beverley .....	24	1,067
Wilson .....	Queen .....	King .....	20	1,000.6
Wilton Ave. ....	Yonge .....	George .....	30	1,787
Yonge .....	Davenport .....	C. P. R. Tracks ...	28	3,050

## ASPHALT BLOCK PAVEMENT.

Victoria .....	King .....	Colborne .....	29	217
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## MACADAM.

Atlantic Ave .....	King .....	Liberty .....	24	700
Bowman .....	Carlton .....	Sackville Pl. ....	20	225.2
Czar .....	North .....	Queen's Park Cr. ...	20	1,221.7
Cherry .....	Eastern .....	1,392½ ft. south ...	24	1,392.5
Eastern .....	Trinity .....	Don Bridge .....	24	2,565
Front .....	Trinity .....	Cypress .....	24	2,112.7
Grange .....	Huron .....	Spadina .....	24	427
George .....	Front .....	Esplanade .....	36	450

TABLE No. 7.

## ASPHALT.

Pavements	Curb.			Completed.	Contractor.
	Width.	Class.	Length.		
sq. yds.			lin. ft.		
905	5-in.	Concrete	673	May 12, 1903	Forest City Paving Co.
10,602	6-in.	" ..	6,863	June 30, 1903	Warren Bit. Pvg. Co.
814	5-in.	" ..	506	Aug. 21, 1903	Barber Asphalt Paving Co.
901.5	5-in.	" ..	831	Sept. 14, 1903	Constructing & Paving Co.
4,927	6-in.	Stone ..	110	Oct. 14, 1903	Warren Bit. Pvg. Co.
11,340	6-in.	Concrete	6,482	Aug. 19, 1903	" ..
2,040	5-in.	" ..	1,532	" 22, 1903	Constructing & Paving Co.
2,408.5	5-in.	" ..	32	Oct. 5, 1903	Warren Bit. Pvg. Co.
3,537	6-in.	" ..	1,886	Aug. 19, 1903	Barber Asphalt Paving Co.
1,573	5-in.	" ..	1,135	May 21, 1903	Warren Bit. Pvg. Co.
3,006	4-in.	Stone ..	2,803	" 7, 1903	Forest City Paving Co.
1,718	5-in.	Concrete	1,592	" 9, 1903	" ..
7,652	5-in.	" ..	286	June 14, 1903	Barber Asphalt Paving Co.
14,015	6-in.	" ..	9,987	Dec. 3, 1903	Warren Bit. Pvg. Co.
2,288.	5-in.	" ..	1,158	Sept. 2, 1903	Barber Asphalt Paving Co.
667 3.	5-in.	" ..	587	Oct. 21, 1903	" ..
637	5-in.	" ..	1,398	Sept. 22, 1903	" ..
1,595.	5-in.	" ..	1,001	" 29, 1903	Warren Bit. Pvg. Co.
5,566 2	4-in.	Stone ..	4,127	June 4, 1903	Constructing & Paving Co.
2,839	5-in.	Concrete	2,051	Aug. 8, 1903	" ..
1,458	4-in.	Stone ..	380	" 21, 1903	Barber Asphalt Paving Co.
3,066	5-in.	Concrete	1,628	Oct. 14, 1903	" ..
2,256	5-in.	" ..	1,969	Sept. 22, 1903	" ..
6,642	5-in.	" ..	3,767	Dec. 1, 1903	" ..
10,149	4-in.	Stone ..	5,950	Aug. 12, 1903	Constructing & Paving Co.
102,593.5			54,346		

## ASPHALT BLOCK PAVEMENT.

717	None ....	None ...	.....	Not compl'td	Day Labor.
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## MACADAM.

2,051	4-in.	Wood ..	1,526	Dec. 3, 1903	Day Labor.
500	4-in.	" ..	470	Sept. 10, 1903	" ..
2,760	4-in.	Stone ..	2,445	July 24, 1903	" ..
3,991	4-in.	Wood ..	2,874	Oct. 19, 1903	Dom. Pvg. & Contrg. Co.
5,886	4 in.	" ..	4,276	Not compl'td	" ..
7,252	4-in.	" ..	4,618	Not compl'td	Constructing & Paving Co.
1,197.5	4-in.	" ..	437	June 24, 1903	Dom. Pvg. & Contrg. Co.
1,824	4-in.	Stone ..	990	Oct. 17, 1903	Constructing & Paving Co.

MACADAM.—*Continued.*

Street.	From.	To.	Width.	Length.
			feet.	lin. ft.
Gloucester .....	Yonge .....	Church .....	24	938
Glen Rd. ....	Maple Ave. ....	Elm Av. ....	24	320
McGee .....	Queen .....	Eastern .....	21	952.1
Nanton Cr. ....	Elm Ave. ....	Dale Av. ....	24	8,095
Pembroke .....	Wilton. ....	Gerrard .....	24	1,000
St. Alban's .....	Yonge .....	W. s. Surrey Pl....	24	1,335

## TAR MACADAM.

Augusta .....	College .....	St. Patrick .....	24	1,722.5
Beatrice .....	College .....	422 ft. n. ....	21	422
Beatrice .....	422 ft. n. of College	500 ft. further north	21	500
Dupont. ....	Avenue Rd. ....	Walmer Rd. ....	24	2,964
Farley Ave. ....	Tecumseth .....	Niagara .....	24	833
Orchard .....	Spadina .....	Huron .....	20	469.3
Power .....	King .....	Queen .....	24	921.5
Rosedale Rd. ....	Crescent Rd. ....	A pt. 667 ft. south.	20	667
Saulter .....	Queen .....	835 ft. south. ....	21	835
Wells .....	Kendall .....	Bathurst .....	21	1,263
West Ave. ....	First Ave. ....	742 ft. south .....	21	742

## CEDAR BLOCK ON GRAVEL.

Lansdowne .....	Bloor .....	College .....	24	2,681.5
Peter. ....	King .....	Wellington. ....	24	493.5
Robinson .....	Palmerston .....	Euclid. ....	24	271
College .....	Bathurst .....	Lansdowne. ....	28	5,101.
Dovercourt Rd. ....	Churchill .....	College. ....	24	823

## CEDAR BLOCK ON CONCRETE.

Church .....	Front .....	Esplanade .....	65	364
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MACADAM.—*Continued.*

Pavements	Curb.			Completed.	Contractor.
	Width.	Class.	Length.		
sq. yds.			lin. ft.		
2,499	None	None . .	None . .	Sept. 30, 1903	Day Labor.
835	4-in.	Stone . .	627	Oct. 15, 1903	"
2,222	4-in.	" . .	1,925	Aug. 27, 1903	Constructing & Paving Co.
2,214	4-in.	Wood . .	1,648	May 30, 1903	A. J. Brown.
2,853	4-in.	Stone . .	2,160	Sept. 2, 1903	Day Labor.
3,664 5	4-in.	" . .	2,680	June 4, 1903	Dom. Pvg. & Contrg. Co.
39,749.6			26,586		

## TAR MACADAM.

4,814	4-in.	Stone . .	3,619	Sept. 10, 1903	Warren Bit. Pvg. Co.
983	4-in.	" . .	919	May 20, 1903	Constructing & Paving Co.
1,166	4-in.	" . .	1,021	Oct. 1, 1903	Warren Bit. Pvg. Co.
8,239	4-in.	" . .	6,063	" 14, 1903	W. F. Grant & Co.
2,220	4-in.	" . .	1,714	Sept. 28, 1903	Constructing & Paving Co.
1,117	4-in.	" . .	1,015	Oct. 29, 1903	" " "
2,459	None	None . .	None . .	Sept. 22, 1903	Warren Bit. Pvg. Co.
1,719	4-in.	Stone . .	1,427	" 18, 1903	Constructing & Paving Co.
1,988	4-in.	" . .	1,721	July 16, 1903	Warren Bit. Pvg. Co.
3,120	4-in.	Wood . .	2,636	May 4, 1903	Constructing & Paving Co.
1,731	4-in.	Stone . .	21	Nov. 5, 1903	" " "
29,556			20,156		

## CEDAR BLOCK ON GRAVEL.

7,194	4-in.	Wood . .	5,423	Aug. 27, 1903	W. F. Grant & Co.
1,501	4-in.	Stone . .	142	Nov. 13, 1903	" "
729	4-in.	Wood . .	571	May 9, 1903	" "
16,265	4-in.	" . .	10,230	Sept. 11, 1903	Dom. Pvg. & Contrg. Co.
2,377	4-in.	" . .	1,728	Oct. 6, 1903	Constructing & Paving Co.
28,066			18,119		

## CEDAR BLOCK ON CONCRETE.

2,536	None	None . .	None . .	Not compl'd	W. F. Grant & Co.
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## BRICK OR CONCRETE.

Street.	From.	To.	Width.	Length.
			feet.	lin. ft.
Clarence .....	Wellington .....	218½ ft. north .....	29	2,185
Drummond Pl. ....	Adelaide .....	A pt. 198 ft. north..	16½	198
Givens .....	College .....	Bloor .....	24	2,814.3
Lane .....	S. from Wellington.	East to Bay Street..	11½ to 14	431.6
Lombard .....	Church .....	Jarvis .....	40	628
Mitchell Ave .....	Tecumseth .....	Niagara .....	20	803
Ontario .....	Front .....	King .....	25	275.7
Sherbourne .....	Front .....	Esplanade .....	26	426.7
Sheridan .....	Dundas .....	Florence .....	20	1,524.6
Turner .....	Tecumseth .....	418½ ft. west .....	21	418.5

## CONCRETE PAVEMENT.

Francis .....	King .....	Adelaide .....	20	417.2
McFarren's Lane ...	Queen .....	Duchess .....	14	358.5

## STONE SETTS PAVEMENT.

Front .....	Simcoe .....	John .....	40	1,087.5
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## WOOD BLOCK PAVEMENT.

York Street Bridge..	Front .....	Lake Street .....	.....	1,108.7
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## STONE CURBING.

Street.	From.	To.	Side.	Width.
				feet.
Front .....	Church .....	West Market .....	North ..	6
Power Street .....	King .....	Queen .....	West ..	4
Power Street .....	King .....	208 ft. s'th of Queen	East ....	4
West Ave .....	First .....	742 ft. south .....	East .....	4

## WOOD CURBING.

Strachan .....	King .....	Clifford .....	East ....	4 x 10
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## BRICK ON CONCRETE.

Pavements	Curb.			Completed.	Contractor.
	Width.	Class.	Length.		
sq. yds.			lin. ft.		
693	None	None ..	None ..	Oct. 16, 1903	John Maguire.
363	4-in.	Stone ..	413.5	June 5, 1903	" "
7,642	4-in.	" ..	5,815	Aug. 15, 1903	Toronto Con. & Pvg. Co.
630.2	None	None ..	None ..	May 16, 1903	John Maguire.
2,823	"	" ..	" ..	Not compl'td	John McBean.
1,802.5	4-in.	Stone ..	1,618	" "	Toronto Con. & Pvg. Co.
763	None	None ..	None ..	Dec. 5, 1903	Day Labor.
1,131	4-in.	Stone ..	776.5	Sept. 28, 1903	John Maguire.
3,653	4-in.	" ..	3,122	Nov. 10, 1903	W. F. Grant & Co.
1,017	4-in.	" ..	842	June 1, 1903	" "
20,517.7			13,855		

## CONCRETE PAVEMENT.

938	None	None ..	None ..	July 13, 1903	Day Labor.
556	"	" ..	" ..	Oct. 20, 1903	" "

## STONE SETTS PAVEMENT.

4,826	6-in.	Concrete	397	Dec. 19, 1903	Constructing & Paving Co.
	4-in.	Stone ..	43		

## WOOD BLOCK PAVEMENT.

4,307	.....	.....	.....	Not compl'td	Dom. Pvg. & Contrg. Co.
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## STONE CURBING.

Length.				Completed.	Contractor.
423.3	.....	.....	.....	July 2, 1903	George Nicholson.
933.7	.....	.....	.....	Sept. 10, 1903	Warren Bit. Paving Co.
724.8	.....	.....	.....	" 10, 1903	" "
742	.....	.....	.....	Oct. 22, 1903	George Nicholson.

## WOOD CURBING.

829	.....	.....	.....	Oct. 9, 1903	Day Labor.
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## CONSTRUCTION OF TRACK ALLOWANCES.

Street.	From.	To.	Length.	Width.
Avenue Rd. ....	Dupont .....	261 ft. s. of City Limit	1,345	9 to 14
Front .....	Simcoe .....	Bathurst .....	4,654	16½
Bathurst .....	King .....	Front .....	1,166	14

## CONCRETE SIDEWALKS.

Street.	From.	To.	Side.	Width.
				Ft. In.
Agnes. ....	Yonge .....	Centre .....	North ..	5
Agnes. ....	Chestnut .....	Teraulay .....	South ..	5
Argyle .....	Dundas .....	Dovercourt road ..	North ..	5
Adelaide .....	Spadina .....	285 ft. e. of Portland	South ..	5
Avenue road .....	Davenport road ..	Cottingham .....	East ..	6
Avenue road .....	Davenport road ..	Rathnally crescent..	West ..	6
Adelaide .....	Simcoe .....	Spadina .....	North ..	6
Adelaide .....	Church .....	Jarvis .....	North ..	10
Alexander .....	Church .....	McMillan .....	South ..	5
Albany .....	Bloor .....	Barton .....	East ..	5
Brock .....	Queen .....	13 ft. n. of s. lts. G. T. R.	West ..	5
Brock .....	Dundas .....	College .....	West ..	5
Bernard .....	Bedford .....	Admiral .....	North ..	5
Berkeley .....	Gerrard .....	Carlton .....	West ..	5
Baldwin .....	McCaul .....	Beverley .....	North ..	5
Broadview .....	Queen .....	Gerrard .....	West ..	6
Berkeley .....	Wilton .....	Gerrard .....	West ..	5
Berkeley .....	Wilton .....	Gerrard .....	East ..	5
Brooke .....	Howland .....	Logan .....	South ..	5
Berkeley .....	Queen .....	Duchess .....	West ..	5
Booth .....	Queen .....	Eastern .....	East ..	5
Bellevue place .....	Augusta .....	Denison .....	South ..	5
Bathurst .....	Follis .....	N. city limits .....	West ..	5
Barton .....	100 ft. w. of Howland	Albany .....	South ..	5
Bellevue avenue .....	College .....	Oxford .....	Both ..	5
Bathurst .....	College .....	Bloor .....	West ..	6
Berkeley .....	Queen .....	Sydenham .....	East ..	5
Breadalbane .....	St. Vincent .....	154 ft. e. of Surrey pl	South ..	5
Beatrice .....	Arthur .....	166 ft. north .....	West ..	5
Bernard .....	Dupont .....	200 ft. south .....	West ..	5
Bernard .....	Dupont .....	200 ft. south .....	East ..	5
Beatrice .....	422 ft. n. of College	500 ft. further north	Both ..	4
Beverley .....	Cecil .....	College .....	West ..	6
Berkeley .....	King .....	Duke .....	East ..	5
Berkeley .....	King .....	Duke .....	West ..	5
Cowan .....	King .....	Queen .....	East ..	5

## CONSTRUCTION OF TRACK ALLOWANCES.

Sq. Yds.	Class of Pavement.	Completed.	Contractor.
1,790	Brick on Concrete .....	Oct. 10, 1903 ...	John Maguire.
7,977	" " .....	" 28, 1903....	W. F. Grant & Co.
1,626	Stone Setts " .....	" 14, 1903....	John McBean.

## CONCRETE SIDEWALKS.

Length.		Curb.		Completed.	Contractor.
		Class.	Length.		
Ft.	In.		Ft.	In.	
1,453	8	Concrete ..	1,453	8	Oct. 13, 1903 Harvard & Leach.
489	4	"	489	4	Oct. 3, 1903 Harvard & Leach.
936	1	"	936	1	Sept. 9, 1903 Day labor.
948	6	.....	.....	August 8,	1903 W. F. Grant & Co.
1,669	8	Concrete ..	59	4	July 18, 1903 Crescent Concrete Co.
2,090	0	.....	.....	Sept. 10,	1903 Crescent Concrete Co.
2,170	6	Concrete ..	16	4	July 7, 1903 W. F. Grant & Co.
585	3	Stone. ....	118	0	June 8, 1903 Harvard & Leach.
318	5	.....	.....	April 25,	1903 Crescent Concrete Co.
1,040	3	.....	.....	April 11,	1903 Harvard & Leach.
1,079	7	.....	.....	April 20,	1903 W. F. Grant & Co.
634	5	.....	.....	April 11,	1903 W. R. Payne.
377	0	.....	.....	Sept. 16,	1903 Harvard & Leach.
659	5	.....	.....	April 21,	1903 R. A. Rogers & Co.
572	0	Concrete ..	589	5	June 26, 1903 W. F. Grant & Co.
2,413	3	.....	.....	June 16,	1903 Toronto Con. & Pav. Co.
1,019	5	.....	.....	June 15,	1903 A. Gardner & Co.
1,018	9	.....	.....	July 7,	1903 R. A. Rogers & Co.
470	5	Stone.....	462	5	July 16, 1903 Constructing & Paving Co.
346	0	Concrete ..	346	0	July 22, 1903 Crescent Concrete Co.
951	0	"	951	0	Aug. 7, 1903 Constructing & Paving Co.
295	3	.....	.....	Sept. 1,	1903 A. Gardner & Co.
1,503	9	.....	.....	Sept. 3,	1903 Harvard & Leach.
200	0	.....	.....	Sept. 4,	1903 Harvard & Leach.
831	2	Stone.....	20	3	Sept. 16, 1903 W. R. Payne.
3,104	7	.....	.....	Sept. 28,	1903 W. F. Grant & Co.
474	3	Concrete ..	474	3	Sept. 22, 1903 Crescent Concrete Co.
434	0	"	434	0	Oct. 5, 1903 Day labor.
167	5	"	167	5	Oct. 12, 1903 W. R. Payne.
202	9	"	202	9	Oct. 22, 1903 Harvard & Leach.
200	0	"	200	0	Oct. 26, 1903 Harvard & Leach.
1,091	8	.....	.....	Oct. 29,	1903 Day labor.
639	5	.....	.....	Oct. 24,	1903 Constructing & Paving Co.
263	5	Concrete ..	263	5	Nov. 5, 1903 Crescent Concrete Co.
191	7	"	191	7	Nov. 11, 1903 R. A. Rogers & Co.
1,135	9	.....	.....	April 25,	1903 W. R. Payne.

CONCRETE SIDEWALKS—*Continued.*

Street.	From.	To.	Side.	Width.
				Ft. In.
Crescent road	Searth	Lampport	North	5
Cumberland	Yonge	Avenue road	Both	3
Clinton	Bloor	385½ ft. n. of Harbord	East	5
Clinton	Bloor	889 ft. south	West	5
Church	Shuter	Gould	West	6
Church	Gerrard	57½ ft. s. of Carlton	West	6
Concord	Hepbourne	Bloor	West	5
Carlton	Ontario	Parliament	North	6
Chicora	314½ w. of Avenue rd	318 ft. 7 in. further w.	North	5
College	Yonge	Queen's Park	North	8
Clifford	Stafford	Strachan	South	4
College	Yonge	University	South	8
Cameron place	Vanauley	163 ft. east	North	4
Cameron	Queen	835 ft. north	East	5
Charles	Yonge	551½ ft. east	South	5
Carlton	Gifford	Sumach	South	5
Charles	Church	Jarvis	North	5
Church	Gloucester	Isabella	East	6
Chicora	633' w. of Avenue rd.	Bedford	South	5
Duke	Jarvis	Sherbourne	North	6
Dagmar	Pape	627¼ ft. east	North	5
Duncan	King	Adelaide	Both	6
Dovercourt road	Argyle	Dundas	East	5
Drummond place	Adelaide	203 ft. north	East	3 9
Drummond place	93½ ft. n. of Adelaide	109½ ft. n. & e. 17 ft.	W & N	3 9
Duke	Ontario	Berkeley	South	5
Duchess	Ontario	Parliament	South	6
Dovercourt road	Queen	689½ ft. south	West	5
Dowling	King	Railway tracks	E & W	5
Denison	Queen	Bellevue place	East	5
Draper	Front	Wellington place	East	4
Davenport road	Yonge	Hazelton	South	6
Dalhousie	Gould	136 ft. north	West	5
Dupont	Avenue road	268 ft. west	South	5
Dovercourt road	Queen	761 ft. south	East	5
Dupont	Kendall	121½ ft. w. of Bernard	South	5
Dupont	Avenue road	Davenport road	North	5
Elm	Chestnut	University	South	6
Eastern	Sumach	St. Lawrence	North	4
Esther	Queen	Farley	East	5
Elm avenue	Sherbourne	Dunbar	North	5
Elizabeth	Edward	Elm	West	6
Elm avenue	Sherbourne	Huntley	South	6
Exhibition Park	Dufferin	Main Drive	Both	8
Francis	King	Adelaide	West	4
Francis	King	18 ft. s. Adelaide	East	4
Forest road	Yonge	East End	South	4

## CONCRETE SIDEWALKS—Continued.

Length.		Curb.		Completed.		Contractor.
		Class.	Length.			
Ft.	In.		Ft. In.			
753	3			May 18, 1903		Harvard & Leach.
3,868	8	Concrete..	3,875 3	July 18, 1903		W. R. Payne.
891	0	"	891 0	June 3, 1903		W. F. Grant & Co.
860	7	"	860 7	June 9, 1903		W. F. Grant & Co.
1,213	5			July 9, 1903		A. Gardner & Co.
603	5			July 13, 1903		A. Gardner & Co.
791	0			July 27, 1903		W. R. Payne.
665	5			July 21, 1903		R. A. Rogers & Co.
318	6			Nov. 6, 1903		Day labor.
1,958	2			Sept. 12, 1903		A. Gardner & Co.
281	0	Concrete	281 0	Aug. 27, 1903		W. R. Payne.
1,653	1			Oct. 2, 1903		Constructing & Paving Co.
194	8			Sept. 12, 1903		Harvard & Leach.
812	7			Sept. 11, 1903		" "
616	0	Concrete..	602 0	Oct. 10, 1903		Day labor.
438	3	"	420 5	Oct. 12, 1903		" "
666	5	"	659 5	Oct. 15, 1903		R. A. Rogers & Co.
347	0			Nov. 6, 1903		A. Gardner & Co.
118	4			Nov. 6, 1903		Day labor.
440	3			April 11, 1903		A. Gardner & Co.
627	0	Concrete..	627 0	April 17, 1903		R. A. Rogers & Co.
727	1			May 19, 1903		A. Gardner & Co.
1,160	8	Concrete ..	1,160 8	April 28, 1903		W. F. Grant & Co.
201	4			June 17, 1903		Day labor.
130	4			June 17, 1903		" "
397	6	Concrete..	397 6	June 25, 1903		" "
631	2	"	631 2	July 21, 1903		Harvard & Leach.
687	3			July 14, 1903		W. F. Grant & Co.
1,438	0			July 23, 1903		Toronto Con. & Pav. Co.
1,799	0	Concrete..	1,732 0	Aug. 5, 1903		A. Gardner & Co.
512	0	Stone.....	38 1	Aug. 10, 1903		" "
2,030	0	Concrete...	2,043 0	Sept. 8, 1903		Crescent Concrete Co.
150	1	"	141 8	Sept. 16, 1903		" "
272	0			Oct. 16, 1903		Harvard & Leach.
763	0			Oct. 19, 1903		Constructing & Paving Co.
433	2	Concrete..	433 2	Oct. 28, 1903		Harvard & Leach.
1,319	0			Nov. 9, 1903		" "
481	2			April 9, 1903		Crescent Concrete Co.
710	0	Concrete..	715 0	May 29, 1903		Toronto Con. & Pav. Co.
234	2	"	234 2	July 10, 1903		W. F. Grant & Co.
422	2			Aug. 10, 1903		R. A. Rogers & Co.
283	5			Nov. 16, 1903		Day labor.
176	8			Nov. 14, 1903		Harvard & Leach.
623	8	Concrete..	623 8	July 7, 1903		W. R. Payne.
395	0	"	406 0	July 13, 1903		Day labor.
395	0	"	406 0	July 9, 1903		" "
356	0			Sept. 28, 1903		Crescent Concrete Co.

## CONCRETE SIDEWALKS—Continued.

Street.	From.	To.	Side.	Width.
				Ft. In.
Frankish.....	Sheridan.....	132 ft. west.....	South ..	4
Front.....	Simcoe.....	John.....	South ...	6
Gerrard.....	Sumach.....	River.....	North ...	6
Gerrard .....	Teraulay.....	Laplanthe.....	North ...	5
Gladstone.....	College.....	Lindsay.....	West ...	5
Glen road.....	Bridge.....	Maple.....	West ...	5
George.....	Queen.....	No. 7 Wilton Cr....	East....	5
George.....	Queen.....	Wilton Ave.....	West ...	5
Gerrard.....	River.....	Bridge.....	North ...	8
Gerrard.....	Terauley.....	Elizabeth.....	South ...	4
Grange.....	Denison.....	Hackney.....	South ...	5
Grant.....	Queen.....	625 ft. north....	East....	4 5
Grant.....	Queen.....	Kintyre.....	West ...	4 5
Gerrard.....	Elizabeth.....	Laplanthe.....	North ...	4
George.....	Britain.....	Duchess.....	East....	6
Gerrard.....	Church.....	Jarvis.....	South ...	6
Howland.....	Wells.....	Dupont.....	East....	5
Howland.....	Wells.....	Dupont.....	West ...	5
Huron.....	Phoebe.....	Grange.....	East....	5 6
Hayden.....	Church.....	East End.....	South ...	5
Hamilton.....	Queen.....	Paul.....	East....	4
Hamburg.....	Bloor.....	Hallam.....	West ...	4 6
Hayden.....	Yonge.....	Church.....	South ...	4
Island Lake Shore ..	Clegg Hotel ..	Sick Child'n's Hosp. ....	.....	7
Island Lake Shore ..	Sick Child'n's Hosp.	Manitou.....	.....	7
Jarvis.....	Adelaide.....	Lombard.....	West ...	11
Jameson.....	Railway Tracks.....	790 ft. south.....	West ...	5
Jameson.....	Railway Tracks.....	814 ft. 9 in. south ..	East....	5
King.....	Frederick.....	Sherbourne.....	South ...	11 9
King.....	Sherbourne.....	Berkeley.....	South ...	11 6
King.....	Peter.....	Spadina.....	North ...	6
King.....	Dunn.....	Jameson.....	North ...	6
Kenilworth.....	Queen.....	1,439 ft. south.....	East....	5
Kendall.....	Dupont.....	150 ft. further south	East....	5
Kendall.....	Dupont.....	200 ft. south.....	West ...	5
King.....	Jameson.....	Wilson.....	North ...	6
King.....	John.....	Peter.....	North ...	6
King.....	Parliament.....	Power.....	North ...	10
King.....	Widmer.....	39½ ft. east.....	North ...	4 1
King.....	Berkeley.....	75½ ft. east.....	North ...	8
Langley.....	Broadview.....	Logan.....	South ...	5
Langley.....	Broadview.....	1,272 ft. east.....	North ...	5
Louisa.....	Yonge.....	110 ft. west.....	South ...	9 4
Louisa.....	119 ft. w of Yonge..	Terauley.....	North ...	6
Lansdowne.....	Bloor.....	Jeanette.....	West ...	4
Linden.....	Sherbourne.....	Huntley.....	North ...	6
Lansdowne.....	Wallace.....	N Limits Lot No. 42	East....	5



## CONCRETE SIDEWALKS—Continued.

Length.		Curb.		Completed.	Contractor.
		Class.	Length.		
Ft.	In.		Ft. In.		
132	6	Concrete..	132 6	Sept. 25, 1903	W. R. Payne.
897	3	.....	.....	Nov. 19, 1903	Day labor.
522	5	.....	.....	April 9, 1903	A. Gardner & Co.
159	0	Concrete..	159 0	April 8, 1903	Crescent Concrete Co.
334	0	"	334 0	May 21, 1903	W. F. Grant & Co.
470	5	"	322 0	May 20, 1903	R. A. Rogers & Co.
1,181	2	"	1,129 2	June 6, 1903	A. Gardner & Co.
1,209	3	"	1,167 7	June 6, 1903	"
472	5	"	478 5	July 31, 1903	Day labor.
334	8	"	334 8	July 18, 1903	"
347	8	.....	.....	Aug. 11, 1903	A. Gardner & Co.
597	5	.....	.....	Aug. 17, 1903	Toronto Con. & Pav. Co.
586	5	.....	.....	Aug. 24, 1903	" " "
142	8	Concrete..	142 8	Sept. 23, 1903	Harvard & Leach.
204	5	.....	.....	Sept. 14, 1903	Toronto Con. & Pav. Co.
337	1	.....	.....	Not completed.	" " "
1,116	3	.....	.....	July 10, 1903	Harvard & Leach.
1,116	2	.....	.....	July 14, 1903	" "
616	0	Concrete..	605 0	Aug. 1, 1903	Crescent Concrete Co.
347	0	.....	.....	Aug. 14, 1903	A. Gardner & Co.
559	0	Concrete..	559 0	Aug. 21, 1903	Constructing & Paving Co.
2,202	0	"	2,214 0	Oct. 10, 1903	Crescent Concrete Co.
936	0	.....	.....	Oct. 8, 1903	A. Gardner & Co.
4,845	3	.....	.....	May 20, 1903	Day labor.
5,126	2	.....	.....	July 2, 1903	"
189	0	Concrete..	189 0	July 14, 1903	W. R. Payne.
770	0	"	382 0	Aug. 7, 1903	Toronto Con. & Pav. Co.
794	0	"	261 0	Aug. 10, 1903	" " "
289	0	.....	.....	June 19, 1903	" " "
954	6	Stone.....	528 0	July 7, 1903	" " "
644	2	.....	.....	July 25, 1903	" " "
716	0	Concrete..	13 0	Sept. 15, 1903	Harvard & Leach.
1,440	0	"	1,440 0	Sept. 28, 1903	A. Gardner & Co.
151	6	"	151 6	Oct. 30, 1903	Harvard & Leach.
219	3	"	219 3	Oct. 3, 1903	" "
1,382	0	.....	.....	Nov. 11, 1903	Crescent Concrete Co.
637	5	.....	.....	Oct. 31, 1903	Toronto Con. & Pav. Co.
258	3	Stone.....	6 0	Nov. 10, 1903	Crescent Concrete Co.
39	3	.....	.....	Oct. 31, 1903	Toronto Con. & Pav. Co.
97	6	Concrete..	87 6	Nov. 14, 1903	Crescent Concrete Co.
1,923	6	.....	.....	June 6, 1903	R. A. Rogers & Co.
1,285	6	.....	.....	June 19, 1903	" "
112	5	.....	.....	June 27, 1903	Harvard & Leach.
489	1	.....	.....	July 2, 1903	" "
542	8	.....	.....	July 11, 1903	Day labor.
604	0	.....	.....	Aug. 24, 1903	Harvard & Leach.
505	8	.....	.....	Oct. 9, 1903	W. F. Grant & Co.

## CONCRETE SIDEWALKS—Continued.

Street.	From.	To.	Side.	Width.
				Ft. In.
Laplane .....	Gerrard.....	College .....	East....	3 7
Markham .....	Robinson.....	Arthur.....	East....	5
Maitland .....	Yonge.....	Church.....	North..	5
Margueretta.....	Bloor.....	940 ft. north .....	East....	4 5
Murray .....	Caer Howell.....	Orde.....	West....	5
Mutual .....	Queen.....	Shuter.....	West....	6
Morris .....	Huron.....	Spadina .....	North..	4
Macdonnell.....	Queen.....	2,826 ft. north .....	West....	5
Montrose .....	Sully Cr.....	College .....	West....	4
Maple Ave. ....	37½ ft. w. Powell...	a pt. 215' further w.	South..	5
Marlborough .....	Yonge.....	427 ft. west. ....	North..	5
McCaul.....	Queen.....	Grange Rd.....	West....	6
Montagne Pl.....	Homewood.....	285½ ft. west.....	Both....	4
Northumberland .....	Dovercourt .....	Westmoreland.....	North..	4
Northumberland .....	Delaware.....	Dovercourt.....	South..	4
Ontario .....	Queen.....	Duchess.....	West....	5
Ontario.....	Queen.....	Duchess.....	East....	5
Ontario.....	King.....	Duke.....	East....	5
Ontario.....	Wilton Ave .....	Gerrard .....	West....	5
Ossington Ave.....	College .....	Bloor.....	East....	5
O'Hara .....	Maple Grove .....	949 ft. north .....	East....	5
Phoebe .....	Soho .....	Spadina .....	South..	5
Parliament.....	Queen.....	Sydenham.....	West....	6
Parliament.....	Amelia .....	Wellesley.....	East....	6
Parliament.....	Gerrard.....	Carlton.....	East....	6
Pape Ave .....	Queen.....	Eastern.....	East....	5
Perth Ave.....	Royce.....	Hugo .....	West....	4
Peter .....	King.....	Wellington.....	West....	5
Peter .....	King.....	Wellington.....	East....	5
Parliament.....	Orford.....	Gerrard.....	East....	8
Queen.....	Dunn.....	Gwynne.....	South..	12
Queen .....	Bay.....	287 ft. east .....	South..	12
Queen.....	York.....	Simcoe .....	South..	11
Richmond.....	Widmer.....	Peter.....	South..	5
Richmond.....	Peter.....	John.....	North..	5
Roseberry .....	Bathurst.....	150 ft. east .....	North..	5
Russett .....	Bloor.....	North Limit No. 72	West....	4
Roxborough.....	Yonge.....	Avenue Rd.....	North..	6
Richmond .....	John.....	Widmer.....	South..	5
Sword.....	Gerrard.....	Spruce.....	West....	4
Seaton.....	Wilton Ave.....	Carlton.....	East....	5
Sackville .....	King.....	Queen.....	East....	5
St. Alban's.....	St. Vincent.....	Yonge .....	South..	5
Spadina.....	King.....	Queen.....	East....	6
St. Alban's.....	St. Vincent .....	Surrey Pl.....	South..	5
Station .....	Simcoe .....	York .....	North..	10
Smith .....	365' e. of Broadview	255 ft. further east.	South..	5

## CONCRETE SIDEWALKS—Continued.

Length.		Curb.		Completed.	Contractor.
		Class.	Length.		
Ft.	In.		Ft. In.		
783	0	Concrete..	784 0	Nov. 28, 1903	A. Gardner & Co.
1,267	0	.....	.....	April 20, 1903	Crescent Concrete Co.
936	0	Concrete..	940 0	June 9, 1903	A. Gardner & Co.
942	0	.....	.....	June 23, 1903	W. F. Grant & Co.
819	0	Concrete..	809 0	June 4, 1903	A. Gardner & Co.
585	0	"	566 0	Aug. 5, 1903	W. R. Payne.
480	9	.....	.....	Aug. 10, 1903	Crescent Concrete Co.
2,811	5	Concrete..	2,811 5	Sept. 26, 1903	R. A. Rogers.
222	5	.....	.....	Sept. 18, 1903	Day labor.
214	8	Concrete..	214 8	Oct. 10, 1903	Constructing & Paving Co.
425	0	.....	.....	Oct. 20, 1903	A. Gardner & Co.
776	9	.....	.....	Nov. 5, 1903	" "
624	0	.....	.....	Nov. 1, 1903	Constructing & Paving Co.
268	0	Concrete..	268 0	June 15, 1903	W. F. Grant & Co.
280	0	"	280 0	June 15, 1903	" "
358	2	"	358 2	June 4, 1903	Day labor.
350	7	"	350 7	June 8, 1903	"
296	0	"	296 0	June 13, 1903	"
1,041	4	"	1,030 2	Sept. 14, 1903	W. R. Payne.
2,810	4	.....	.....	Aug. 24, 1903	Day labor.
988	7	Concrete..	980 0	Oct. 27, 1903	W. R. Payne.
752	9	.....	.....	June 18, 1903	Harvard & Leach.
462	0	.....	.....	June 27, 1903	R. A. Rogers & Co.
308	2	Concrete..	42 9	Aug. 16, 1903	Crescent Concrete Co.
839	2	.....	.....	Aug. 24, 1903	R. A. Rogers & Co.
955	0	Concrete..	955 0	Sept. 10, 1903	W. R. Payne.
251	5	.....	.....	Sept. 21, 1903	Day labor.
432	0	Concrete..	431 0	Oct. 10, 1903	W. R. Payne.
402	1	"	415 6	Oct. 6, 1903	" "
659	0	"	17 0	Oct. 29, 1903	R. A. Rogers & Co.
1,115	7	"	1,146 0	June 13, 1903	Crescent Concrete Co.
294	6	.....	.....	Aug. 7, 1903	Day labor.
653	9	.....	.....	Aug. 20, 1903	" "
320	8	Concrete..	320 8	June 1, 1903	Harvard & Leach.
649	0	"	654 0	May 28, 1903	" "
149	7	"	149 7	May 17, 1903	Day labor.
762	6	"	762 6	June 18, 1903	W. F. Grant & Co.
1,963	7	"	1,963 7	Oct. 28, 1903	" "
315	5	"	315 5	Nov. 7, 1903	Toronto Con. & Pav. Co.
416	5	"	416 5	April 25, 1903	R. A. Rogers & Co.
1,779	2	"	1,785 3	June 16, 1903	" "
678	3	"	678 3	June 1, 1903	Harvard & Leach.
640	4	.....	.....	June 12, 1903	" "
1,092	8	Concrete..	24 5	June 19, 1903	Crescent Concrete Co.
602	5	.....	.....	June 15, 1903	Harvard & Leach.
626	6	.....	.....	June 19, 1903	A. Gardner & Co.
254	5	.....	.....	June 17, 1903	Toronto Con. & Pav. Co.

CONCRETE SIDEWALKS—*Continued.*

Street.	From.	To.	Side.	Width.
				Ft. In.
Simcoe .....	Adelaide .....	Richmond .....	West ..	8
Simcoe .....	King .....	Wellington .....	East ..	6
Shuter .....	Jarvis .....	Mutual .....	South ..	6
Simcoe .....	Queen .....	Anderson .....	West ..	5
Shannon .....	Ossington .....	Dovercourt .....	North ..	5
Sheridan .....	Dundas .....	Florence .....	West ..	5
Simcoe .....	Anderson .....	Caer Howell .....	West ..	5
St. Patrick .....	McCaul .....	Beverley .....	North ..	5
Springhurst .....	King .....	Jameson .....	E & N ..	5
Strachan .....	Clifford .....	Queen .....	East ..	6
Springhurst .....	King .....	Jameson .....	W & S ..	5
Sussex .....	Major .....	Brunswick .....	North ..	5
St. Joseph .....	St. Nicholas .....	St. Vincent .....	South ..	6
Sumach .....	Gerrard .....	Spruce .....	West ..	6
Searth Road .....	Crescent Rd. ....	536 ft. south .....	East ..	4
Simcoe .....	Queen .....	Caer Howell .....	East ..	5
Spadina Crescent .....	Russell .....	Spadina Ave. ....	East ..	6
Sherbourne .....	King .....	Duke .....	East ..	6
St. Andrews .....	Spadina .....	Kensington .....	North ..	5
Sorauren .....	Queen .....	135' n. of Wright Av. ....	West ..	5
St. Patrick .....	McCaul .....	Beverley .....	South ..	5
St. Clarens .....	Wallace .....	north limit Lot 18. ....	West ..	5
St. Mary's .....	Yonge .....	Chapel Lane .....	South ..	5
Spadina .....	128 ft. north of King .....	Adelaide .....	West ..	6
Strachan .....	King .....	Clifford .....	East ..	5
Sorauren .....	Queen .....	135' n. of Wright Av. ....	East ..	5
Sumach .....	Queen .....	Wilton Ave .....	East ..	5
Temperance .....	Bay .....	196 ft. east .....	North ..	11
Tyndall .....	King .....	354 ft. south .....	East ..	6
Teraulay .....	Gerrard .....	Walton .....	East ..	5
Teraulay .....	Gerrard .....	Walton .....	West ..	5
Victoria .....	104 ft. s. of Queen .....	46½ ft. n. of Lombard .....	East ..	11
Victoria .....	Queen .....	317½ ft. s. of Gould .....	West ..	6
Vanauley .....	Queen .....	Grange .....	East ..	4
Vanauley .....	Queen .....	Grange .....	West ..	4
Waverley Rd .....	625 ft. s. of Queen .....	150 ft. further south .....	East ..	5
Walmer Rd .....	Castle Ave .....	353 ft. n. of Bernard .....	East ..	5
Woolsley .....	Esther .....	Denison .....	North ..	5
Walmer Rd .....	Castle Ave .....	Bernard .....	West ..	5
Walmer Rd .....	House No. 35 .....	Castle Ave .....	East ..	5
Walker Ave .....	Yonge .....	722 ft. 6 in. west .....	South ..	3 6
Wellington .....	York .....	483 ft. west .....	South ..	6
West Ave .....	First Ave .....	742 ft. south .....	West ..	4
Wilton Ave .....	Parliament .....	176½ ft. east .....	North ..	6 & 14 4
Wood .....	Church .....	MacMillan .....	South ..	5
Wilton Ave .....	Yonge .....	Church .....	North ..	6
Woolsley .....	Markham .....	Palmerston .....	North ..	4

## CONCRETE SIDEWALKS—Continued.

Length.		Curb.		Completed.	Contractor.
		Class.	Length.		
Ft.	In.		Ft. In.		
411	0	Stone ....	5 0	July 10, 1903	Toronto Con. & Pav. Co.
448	0	"	20 0	June 30, 1903	" " "
215	9	.....	.....	July 14, 1903	R. A. Rogers & Co.
1,495	0	.....	.....	July 19, 1903	A. Gardner & Co.
967	8	Concrete...	967 8	July 21, 1903	W. F. Grant & Co.
1,546	7	.....	.....	July 29, 1903	" "
554	0	Concrete...	55 0	July 22, 1903	A. Gardner & Co.
619	2	.....	.....	July 29, 1903	" "
1,300	5	.....	.....	July 3, 1903	Harvard & Leach.
339	8	Concrete...	344 0	July 27, 1903	Day labor.
1,357	2	.....	.....	Aug. 11, 1903	Harvard & Leach.
272	9	.....	.....	Aug. 11, 1903	Crescent Concrete Co.
476	3	Concrete...	6	Aug. 11, 1903	Harvard & Leach.
434	6	.....	.....	Aug. 13, 1903	Toronto Con. & Pav. Co.
560	4	.....	.....	Aug. 27, 1903	R. A. Rogers & Co.
1,995	0	.....	.....	Sept. 16, 1903	Crescent Concrete Co.
301	8	.....	.....	Sept. 12, 1903	Day labor.
284	0	.....	.....	Sept. 18, 1903	Toronto Con. & Pav. Co.
409	2	Concrete...	409 2	Sept. 19, 1903	Harvard & Leach.
2,529	2	.....	.....	Oct. 2, 1903	Toronto Con. & Pav. Co.
602	2	.....	.....	Sept. 29, 1903	Day labor.
470	5	Concrete...	470 5	Oct. 6, 1903	W. F. Grant & Co.
568	1	.....	.....	Oct. 4, 1903	R. A. Rogers & Co.
252	1	.....	.....	Oct. 9, 1903	A. Gardner & Co.
784	0	.....	.....	Oct. 21, 1903	Toronto Con. & Pav. Co.
2,211	9	.....	.....	Not completed, W. R. Payne.	
1,312	3	.....	.....	Nov. 16, 1903	Constructing & Paving Co.
195	0	Concrete...	195 0	June 26, 1903	Crescent Concrete Co.
354	8	.....	.....	July 16, 1903	W. R. Payne.
126	5	Concrete...	126 5	Sept. 24, 1903	" "
127	2	"	127 2	Sept. 23, 1903	" "
261	7	.....	.....	Sept. 18, 1903	Day labor.
1,426	0	Concrete...	1,413 2	Sept. 28, 1903	Harvard & Leach.
1,158	8	"	1,158 8	July 3, 1903	" "
1,182	0	"	1,182 0	July 6, 1903	" "
150	0	"	150 0	March 30, 1903	Day labor.
1,088	5	.....	.....	April 25, 1903	Harvard & Leach.
208	3	.....	.....	April 28, 1903	W. R. Payne.
705	0	.....	.....	April 27, 1903	Harvard & Leach.
351	5	Concrete...	351 5	April 30, 1903	" "
722	8	"	722 6	June 25, 1903	A. Gardner & Co.
483	8	.....	.....	June 20, 1903	Crescent Concrete Co.
756	6	Concrete...	741 7	July 2, 1903	R. A. Rogers & Co.
174	9	.....	.....	July 25, 1903	" "
340	9	Concrete...	340 9	July 23, 1903	Harvard & Leach.
668	0	"	48 0	Aug. 5, 1903	R. A. Rogers & Co.
313	0	"	312 0	Aug. 24, 1903	W. R. Payne.

## CONCRETE SIDEWALKS—Continued.

Street.	From.	To.	Side.	Width	
				Ft.	In.
Woolsley .....	Markham .....	Palmerston .....	South ..	4	
Wilton .....	Jarvis .....	George .....	North ..	6	
Wood .....	Church .....	MacMillan .....	North ..	5	
Wilton Ave .....	George .....	119½ e. of Pembroke	North ..	6	
Walton .....	Teraulay .....	Elizabeth .....	South ..	5	
Wilson .....	King .....	Queen .....	West ..	5	
Wellington .....	Peter .....	Clarence .....	North ..	6	
Wilson .....	King .....	Queen .....	East ..	5	
Wellesley .....	Ontario .....	Rose .....	South ..	5	
Gould .....	Yonge .....	Victoria .....	North ..	6	
Queen .....	Lansdowne .....	Macdonnell .....	North ..	11	5
Queen .....	Trefann .....	113 ft. east .....	North ..	8	
Christie .....	Opposite Nos. 138	and 140 .....	West ..	4	
Jones Ave .....	" No. 200 ..	.....	West ..	4*	
Salisbury Ave .....	" Nos. 12 to 22	.....	North ..	4	
St. Joseph .....	Yonge .....	88 ft. 9 in. west ..	North ..	6	
Yonge .....	Queen .....	46 ft. south .....	East ..	11	8
Scarth Rd. ....	Crescent Rd .....	132 ft. 6 in. north ..	West ..	4	10
King .....	Fraser .....	179' w. opp. Carpet Factory .....	South ..	6	
St. Alban's .....	Surrey Pl. ....	Queen's Park Drive	North ..	6	
Spadina Ave. ....	Queen .....	100 ft. south .....	West ..	6	
Mutual .....	Opposite No. 3 ..	.....	East ..	15	
George .....	King .....	68 ft. 7 in. south ..	East ..	11	2
Church .....	Bloor .....	129 ft. south .....	East ..	6	
Queen .....	Opposite Nos. 1498	to 1504 .....	North ..	11	5
Queen .....	Dovercourt .....	67 ft. 8 in. east ..	South ..	67	8
Spadina Ave .....	Opposite Nos. 320 to	340 .....	West ..	10	
McPherson Ave ....	" No. 57 ..	.....	South ..	5	0
Nelson .....	" Elliott Ma	nufacturing Co. ....	North ..	6	0
Richmond .....	" ..	" ..	South ..	15	8
Huntley .....	Bridge .....	Elm Ave .....	West ..	5	
Elm Ave .....	Huntley .....	159 ft. 5 in. west ..	South ..	4	
Temperance .....	Opposite Bell Tele	phone Co. ....	South ..	10	
Lansdowne Ave ....	Queen .....	1st lane north .....	West ..	5	
North Sherbourne...	Opposite No. 32 ..	.....	West ..	6	
King .....	John .....	74 ft. 7 in. east ..	North ..	8	
John .....	King .....	Pearl .....	East ..	6	
Elm Ave .....	Huntley .....	200 ft. 6 in. east ..	South ..	6	
Elm Ave .....	Opposite Nos. 15, 17,	19 .....	South ..	6	
Richmond .....	Church .....	29 ft west .....	South ..	11	5
Richmond .....	29 ft. w. of Church.	97 ft 3 in. further w.	South ..	11	5
King .....	Opposite Dom. Box	Factory .....	South ..	6	
Kendall Ave .....	200 ft. s. of Dupont	600 ft. further south	West ..	5	
Dupont .....	Kendall .....	132 ft. 7 in. east ..	South ..	5	
Adelaide .....	162' 3" w. of John..	53 ft. 7 in. further w.	North ..	6	
Spadina Ave .....	Adelaide .....	South .....	West ..	21	

## CONCRETE SIDEWALKS—Continued.

Length.		Curb.		Completed.	Contractor.
		Class.	Length.		
Ft.	In.		Ft. In.		
314	0	Concrete..	312 0	Aug. 24, 1903	W. R. Payne.
269	4	"	253 7	Sept. 3, 1903	R. A. Rogers & Co.
340	0	"	338 6	Sept. 9, 1903	Harvard & Leach.
574	8	"	385 6	Oct. 1, 1903	R. A. Rogers & Co.
351	9	.....	.....	Sept. 15, 1903	Day labor.
952	0	.....	.....	Oct. 21, 1903	Crescent Concrete Co.
352	0	Concrete..	18 0	Oct. 14, 1903	A. Gardner & Co.
1,021	1	.....	.....	Oct. 14, 1903	Crescent Concrete Co.
312	8	.....	.....	Nov. 9, 1903	Day labor.
255	0	.....	.....	Aug. 20, 1903	A. Gardner & Co.
314	0	Concrete..	314 0	Oct. 12, 1903	Toronto Con. & Pav. Co.
118	0	.....	.....	July 20, 1903	Harvard & Leach.
25	5	.....	.....	.....	Private.
20	6	.....	.....	.....	"
86	9	.....	.....	.....	"
88	9	.....	.....	.....	"
46	9	.....	.....	.....	"
132	6	Concrete	132 6	.....	"
179	0	.....	.....	.....	"
285	0	.....	.....	.....	"
100	1	.....	.....	.....	"
25	0	Concrete..	25 0	.....	"
68	7	.....	.....	.....	"
129	0	.....	.....	.....	"
78	1	Concrete..	87 7	.....	"
67	8	"	76 0	.....	"
174	8	.....	.....	.....	"
27	6	Concrete..	27 6	.....	"
100	1	.....	.....	.....	"
104	5	.....	.....	.....	"
357	5	Concrete..	360 0	.....	"
159	5	.....	.....	.....	"
45	3	.....	.....	.....	"
120	0	Concrete..	120 0	.....	"
64	3	.....	.....	.....	"
74	7	.....	.....	.....	"
189	0	Concrete..	189 0	.....	"
200	6	.....	.....	.....	"
164	6	.....	.....	.....	"
29	0	Concrete..	29 0	.....	"
97	3	"	97 3	.....	"
97	3	.....	.....	.....	"
600	8	.....	.....	.....	"
132	7	Concrete..	133 0	.....	"
53	7	.....	.....	.....	"
52	7	Stone.....	33 8	.....	"

CONCRETE SIDEWALKS—*Continued.*

Street.	From.	To.	Side.	Width.
				Ft. In.
Grant .....	Opposite No.		East ..	4 5
King.....	" W. A. Murray.....		South ..	11 5
Victoria .....	King .....	Colborne.....	West ..	6
Frichot .....	Yonge .....	West .....	North ..	5 4½
Christie.....	Opposite Nos. 20 to	26 .....	West ..	5
Scarth Rd.....	" No. 92 .....		South ..	4
Adelaide East .....	" Nos. 92 to	102.....	North ..	10 7
Temperance.....	" No. 6 Dineen Building .....		North ..	9 3
Bay .....	" No. 53 .....		East.....	11 7
Brunswick Ave.....	" Nos. 161 & 163.....		West ..	5
Bay .....	Front .....	South .....	West ..	11.7-13.9
Richmond .....	Opposite Robertson's Candy Factory...		North ..	7.4 & 16.8
Melinda .....	" Bank of Nova Scotia .....		North ..	7 2
Front .....	" Nerlich & Co., Wholesale F'cy.		North ..	11 4
Avenue Rd .....	301 ft. 5 in. n. of	24 ft. further north.	West ..	6
	Cottingham .....			
King .....	Duncan .....	60 ft. west .....	North ..	8

## BRICK SIDEWALKS.

McPherson Ave.....	Yonge .....	428 ft. 6 in. west...	North ..	3 6
Crescent Rd .....	Cluny .....	East.....	South ..	4 2



CONCRETE SIDEWALKS—Continued.

Length.		Curb.		Completed.	Contractor.
		Class.	Length.		
Ft.	In.		Ft. In.		
15	6	Stone! . . . .	15 6	.....	Private.
118	0	.....	.....	.....	"
206	0	Concrete..	211 0	.....	"
81	6	"	81 6	.....	"
60	8	.....	.....	.....	"
55	6	.....	.....	.....	"
79	0	Stone. ....	79 0	.....	"
50	0	.....	.....	.....	"
31	0	.....	.....	.....	"
120	0	.....	.....	.....	"
180	6	.....	.....	.....	"
43	9	.....	.....	.....	"
48	5	.....	.....	.....	"
49	4	.....	.....	.....	"
24	0	.....	.....	.....	"
60	0	.....	.....	.....	"

BRICK SIDEWALKS.

428	6	.....	.....	.....	Private.
66	1	.....	.....	.....	"

TABLE No. 8.

Class of Pavement.	Total sq. yds. in City.	Total miles in City.	Square yards laid in 1903.	Miles laid in 1903.	Year first laid	Maximum grade of pavement.	Guaranteed period of yrs.	Maximum cost per sq. yd. 1903.	Minimum cost per sq. yd. 1903.	Average cost per sq. yard 1903.
Asphalt .....	848,311	46.41	102,584	6.66	1888	4.41 in 100	10			
Brick on concrete ..	196,600	27.13	20,518	1.47	1893	4.30 in 100	5			
Brick on broken stone	15,031	.842	.....	.....	1899	.....	5			
Brick on gravel .....	32,009	2.218	.....	.....	1896	.....	5			
Cedar block .....	1,371,531	60.73	30,602	1.84	1881	4.30 in 100	1 & 5			
Gravel .....	76,862	.794	.....	.....	1880	.....	1			
*Scoria and granite ..	46,464	1.020	4,826	.206	1884	1.80 in 100	1			
†Macadam .....	759,899	57.18	69,958	4.948	.....	550 in 100	1			
								\$1.30	\$0.85	Depth of stone varies from 8 to 13 inches.

\* Street Railway track allowance not included in total mileage.

† Including tar macadam.

TABLE No. 9.  
 GIVING MILEAGE OF CEMENT CONCRETE AND BRICK SIDEWALKS CONSTRUCTED IN  
 THE CITY OF TORONTO.

Year.	Cement Concrete.	Brick.	Total
	Miles. (up to this date)		
1889 .....	1.190		1.190
1890 .....	1.426		1.426
1891 .....	1.950		1.950
1892 .....	1.508		1.508
1893 .....	2.259		2.259
1894 .....	1.137		1.137
1895 .....	1.918		1.918
1896 .....	0.612	0.204	0.816
1897 .....	1.050	0.820	1.870
1898 .....	2.107	1.190	3.297
1899 .....	5.470	0.290	5.760
1900 .....	15.227	0.038	15.265
1901 .....	17.305	0.511	17.816
1902 .....	27.360	0.049	27.409
1903 .....	34.896	0.093	34.989
Totals.....	115.415	3.195	118.610

TABLE No. 10.  
CONCRETE WALKS CONSTRUCTED BY DAY LABOR DURING 1903.

Street.	Side.	From	To	Width in ft.	Kind of Curbing Constructed with Walk
Queen .....	S	Bay .....	287 ft. east.....	12	.....
Queen .....	S	York .....	Simcoe.....	11	.....
Gerrard.....	N	River .....	Don Bridge.....	8½	Concrete
Victoria.....	E	164½ ft. south of Queen	46½ ft. n. of Lom'rd	11	.....
Lake Shore on Isl'nd	W	Lakeside Home .....	Clegg's Hotel.....	7	.....
" .....	S	Manitou Road.....	Lakeside Home.....	7	.....
Ontario.....	E	Queen .....	Duchess.....	5½	Concrete
Ontario.....	W	Queen .....	Duchess.....	5½	"
Ontario.....	E	King .....	Duke.....	5½	"
Duke .....	S	Ontario.....	Berkeley.....	5½	"
Roseberry Ave.....	N	Bathurst .....	150 ft. east .....	5½	"
Argyle.....	N	Dundas.....	Dovercourt Rd.....	5½	"
Carlton .....	S	Gifford .....	Sumach .....	5½	"
Charles.....	S	Yonge .....	551½ ft. east.....	5½	"
Breadalbane.....	S	St. Vincent.....	154 ft. e. of Surrey	5½	"
Waverley Rd.....	E	625 ft. south of Queen.	150 ft. further s.	5½	"
Ossington Ave.....	E	College .....	Bloor.....	5	.....
Walton .....	S	Elizabeth .....	Terauley .....	5	.....
Wellesley.....	S	Ontario.....	Rose Ave.....	5	.....
Chicora Ave.....	S	314½ ft. w. of Ave. Rd.	318½ ft. further w.	5	.....
Chicora Ave.....	S	633 ft. w. of Avenue Rd	Bedford Rd.....	5	.....
St. Patrick.....	S	McCaul .....	Beverley.....	5	.....
Francis.....	E	King .....	18 ft. s. of Adel'de	4½	Concrete
Francis.....	W	King .....	Adelaide.....	4½	"
Gerrard.....	S	Elizabeth .....	Terauley .....	4½	"
Lansdowne Ave. ..	W	Bloor.....	Jeneatte .....	4	.....
Beatrice .....	B	422 ft. n. of College.	500 ft. further n.	4	.....
Montrose Ave.....	W	Sully Crescent.....	College.....	4	.....
Perth Ave. ....	W	Royce Ave.....	Hugo.....	4	.....
Strachan Ave.....	E	Queen .....	Clifford.....	6½	Concrete
East Spadina Cres't.	E	Spadina Ave.....	Russel.....	6	.....
Front .....	S	Simcoe.....	John.....	6	.....
Elizabeth.....	W	Elm .....	Edward.....	6	.....
Drummond Place..	E	Adelaide .....	203 ft. north....	3¾	.....
Drummond Place..	W	93½ ft. n. of Adelaide.	To north end....	3¾	.....
	& N				

TABLE No. 10.  
CONCRETE WALKS CONSTRUCTED BY DAY LABOR DURING 1903.

City's Tender per lin. ft.	Next lowest Tender per lin. ft.	Actual cost of Work Included in Tender per lin. ft.	Cost of work not Included in Tender.	Cost of Work In- cluded in Tender.	Total Cost of Work Exclusive of Interest on Money.	Total Cost of Work Based on Contractors' Lowest Tender.	Difference Between Cost —City's and Next Lowest Tender.	
							Gain.	Loss.
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	
12 58	12 63	12 29	.....	674 74	674 74	774 80	100 06	
12 36	12 41	1 99 <sup>33</sup> / <sub>10</sub>	.....	1305 06	1305 06	1575 90	270 84	
12 52	12 60	1 98 <sup>7</sup> / <sub>10</sub>	.....	938 56	938 56	1228 50	289 94	
20 <sup>1</sup> / <sub>2</sub>	21 <sup>3</sup> / <sub>10</sub>	18	.....	513 84	513 84	609 49	95 65	
85	85	74	.....	3584 13	3584 13	4142 73	558 60	
85	85	76 <sup>1</sup> / <sub>10</sub>	.....	3937 03	3937 03	4382 90	445 87	
1 33	1 34	1 05 <sup>3</sup> / <sub>10</sub>	.....	369 35	369 35	469 94	100 59	
1 33	1 34	1 01 <sup>1</sup> / <sub>10</sub>	.....	362 19	362 19	479 99	117 80	
1 33	1 34	98 <sup>1</sup> / <sub>10</sub>	.....	290 48	290 48	396 64	106 16	
1 34	1 35	1 06 <sup>5</sup> / <sub>10</sub>	.....	422 69	422 69	536 76	114 07	
1 35	None	99 <sup>2</sup> / <sub>10</sub>	.....	148 71	148 71	202 09	53 38	
1 33	1 34	1 15 <sup>1</sup> / <sub>10</sub>	.....	1077 13	1077 13	1254 37	177 24	
1 29	1 33	1 03 <sup>3</sup> / <sub>10</sub>	.....	443 80	443 80	570 30	126 50	
1 29	1 33	1 13 <sup>3</sup> / <sub>10</sub>	27 49	628 09	655 58	733 49	105 40	
1 29	1 33	97 <sup>4</sup> / <sub>10</sub>	.....	424 29	424 29	577 22	152 93	
None	None	99	.....	148 24	148 24	No tender		
82	85	66 <sup>1</sup> / <sub>10</sub>	.....	1860 66	1860 66	2388 84	528 18	
84	87	71 <sup>1</sup> / <sub>10</sub>	9 04	252 45	261 49	306 15	53 70	
80	82	62 <sup>3</sup> / <sub>10</sub>	.....	196 21	196 21	256 49	60 28	
82	84	72 <sup>3</sup> / <sub>10</sub>	.....	230 89	230 89	267 62	36 73	
None	None	67 <sup>2</sup> / <sub>10</sub>	.....	79 74	79 74	No tender		
80	89	70 <sup>9</sup> / <sub>10</sub>	.....	426 71	426 71	535 96	109 25	
1 18	1 20	88 <sup>1</sup> / <sub>10</sub>	.....	348 47	348 47	474 00	125 53	
1 18	1 20	87 <sup>1</sup> / <sub>10</sub>	.....	344 35	344 35	474 60	129 65	
1 16	1 20	98 <sup>6</sup> / <sub>10</sub>	.....	329 85	329 85	401 76	71 91	
None	None	75	.....	406 60	406 60	No tender		
68	80	59 <sup>1</sup> / <sub>10</sub>	.....	598 54	598 54	801 44	202 90	
68	72	60 <sup>1</sup> / <sub>10</sub>	.....	134 67	134 67	160 20	25 53	
68	70	56 <sup>3</sup> / <sub>10</sub>	.....	142 30	142 30	176 05	33 75	
1 50	1 57	1 32 <sup>4</sup> / <sub>10</sub>	.....	451 33	451 33	533 48	82 15	
1 00	1 03	86	.....	259 33	259 33	310 85	51 52	
None	None	78 <sup>3</sup> / <sub>10</sub>	70 25	704 93	775 18	No tender		
"	"	89 <sup>3</sup> / <sub>10</sub>	8 80	253 11	261 91	No tender		
63	"	57 <sup>1</sup> / <sub>10</sub>	.....	114 75	114 75	126 88	12 13	
63	"	51 <sup>1</sup> / <sub>10</sub>	.....	67 51	67 51	82 15	14 64	
115 58				22,470 73	22,586 31	25,230 99	4,352 88	

TABLE No. 11.  
PAVEMENTS CONSTRUCTED BY DAY LABOR DURING 1903.

Street.	From	To.	Class of Pavement.	Width in feet.	Length in feet.
Francis .....	King St. ....	Adelaide St....	Concrete .....	20	417.2
McFarren's Lane	Queen St....	Duchess St....	" .....	14	358.5
Ontario .....	King St. ....	Front St. ....	Brick on concrete..	25	275.7
Bowman .....	Carlton St....	Sackville Pl. ..	3rd class mac'd'm ..	20	225.2
Czar .....	North St....	Queen's Pk. Dr.	" " ..	20	1,221.7
Glen Road ....	Maple Ave..	Elm Ave.....	2nd class mac'd'm..	24	320.0
Atlantic Ave. ..	King St....	Liberty St....	" " ..	24	700.0
Gloucester .....	Yonge St....	Church St....	Mac'd'm recons'n ..	24	938.0
Pembroke .....	Wilton Ave..	Gerrard St...	" " ..	24	1,000.0
Victoria .....	King St....	Colborne.....	Asphalt Blocks ...	29	217.0
Strachan Ave...	King St....	Clifford St. . .	4 in. by 10 in. wood curbing.	....	829.0

TABLE No. 11.  
PAVEMENTS CONSTRUCTED BY DAY LABOR DURING 1903.

City's Tender.	Next Lowest Tender.	Cost of work not included in Tender.	Actual cost of work included in Tender.	Total cost of work exclusive of Interest on Money.	Total cost of work based on lowest Contractor's Tender.	Difference betw'n cost City's Ten- der and next lowest Tender.	
						Gain.	Loss.
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
1,350 00	1,870 00	12 65	1,616 75	1,629 40	1,882 65	253 25	.....
850 00	None.	122 06	1,013 09	1,135 15	no tender	.....	163 09
1,373 00	"	222 97	1,292 93	1,515 90	"	80 07	.....
560 00	627 00	.....	597 67	597 67	627 00	29 33	.....
4,225 00	4,074 00	.....	3,565 36	3,565 36	4,074 00	508 64	.....
1,432 00	None.	.....	1,427 45	1,427 45	no tender	4 55	.....
2,800 00	3,432 00	26 80	2,531 32	2,558 12	3,458 80	990 68	.....
1,250 00	1,454 00	.....	1,040 46	1,040 46	1,454 00	413 54	.....
None.	None.	.....	2,153 53	2,153 53	no tender	.....	.....
2,595 00	"	.....	not com pleted.	.....	.....	.....	.....
18c. lin. ft.	"	.....	142 29	142 29	149 22	6 93	.....
		384 48	15,380 85	15,765 33	11,645 67	2,196 99	163 09
					Net gain...	2,033 90	

TABLE No. 12.

WORKS CONSTRUCTED AS LOCAL IMPROVEMENTS FROM 1892 TO 1903 (INCLUSIVE).

Class of Work.	'92	'93	'94	'95	1896	1897	1898	1899	1900	1901	1902	1903	Total
Asphalt Pavements	9	7	7	4	3	4	14	28	27	25	24	26	178
Brick       "	...	...	...	2	6	16	13	23	13	7	11	10	101
Gravel Roadways..	...	...	...	...	...	16	...	1	1	...	...	...	18
Cobble Stone Pav'ts	5	...	...	...	...	...	...	...	1	...	...	...	6
Stone Sett       "	...	...	...	...	...	...	...	...	...	1	...	...	2
Macadam Roadways	1	...	1	4	5	3	13	24	14	16	24	14	119
Tar Macadam   "	...	...	...	...	...	...	...	...	1	1	6	12	20
Cedar Block Pav'ts.	20	14	6	7	3	7	19	20	24	12	10	6	148
Concrete       "	...	...	...	3	...	...	1	...	...	...	1	2	7
Scoria Block   "	1	...	...	...	...	...	...	...	...	...	...	...	1
Stone Curbing....	...	...	...	...	...	...	...	...	...	1	3	4	8
Wood       "	...	...	...	...	...	...	...	...	...	3	1	1	5
Concrete Sidewalks	6	3	6	11	6	13	25	37	85	118	188	236	734
Brick       "	...	...	...	...	1	8	14	4	1	2	1	...	31
Stone Flag   "	1	1	...	...	...	...	...	...	...	...	...	...	2
Totals .....	43	25	20	31	24	67	99	137	167	186	269	312	1,380



## SEWERS, DRAINS AND SPECIAL WORKS.

CITY ENGINEER'S DEPARTMENT,

Toronto, December 31st, 1903.

MR. C. H. RUST,  
*City Engineer.*

DEAR SIR,—Herewith I submit the Annual Report showing in detail the work done under the supervision of this branch of the Engineer's Department.

During the year the following sewers were constructed :

9-inch tile pipe .....	766 lin. feet.
12-inch tile pipe . . . . .	11,555 "
15-inch tile pipe . . . . .	1,240 "
15-inch tile pipe in concrete . . . . .	3,774 "
18-inch tile pipe in concrete.....	597 "
Box drain, 14-inch x 14-inch.....	1,074 "
Total.....	18,916 "

There are 237.98 miles of sewers in the City.

During the year there were :

- 101 new manholes built.
- 155 manholes repaired.
- 667 new gullies built.
- 113 gullies repaired.
- 98 miles of sewers flushed and cleaned.

There are 68 flush tanks in the City, which are inspected every week.

### GENERAL SEWER REPAIRS.

The repairing of the invert of the Rosedale Creek sewer was continued during the months of January and February. On Elm Grove, Cowan Avenue and Winchester Street the sewer pipes collapsed and short lengths had to be opened up and replaced with new pipes ; these new pipes have been covered with a ring of concrete three inches in thickness to prevent a similar failure in the future.

On Front Street, west of Spadina Avenue, 279 feet of pipe sewer had to be taken up and relaid, as it was blocked with the roots of trees.

### PAPE AVENUE SEWER EXTENSION.

A box drain 14 inches x 14 inches in size and 1,074 feet in length was built to extend the Pape Avenue sewer from Eastern Avenue to Keating's Channel, the former outlet in the marsh, a short

distance east of Pape Avenue, having caused a great deal of annoyance to residents in the vicinity.

#### RADCLIFFE STREET SEWER.

The tile pipe sewer on Radcliffe Street, between Queen Street and Eastern Avenue, is being raised and connected with the Eastern Avenue sewer at Caroline Avenue. Formerly this sewer emptied into the creek a short distance west of Radcliffe Avenue, and was likely to cause a nuisance, as soon as Radcliffe Avenue became built up. The raising of this sewer will be completed early in January, 1904.

#### STREET RAILWAY RECORDS.

Every month a complete record has been taken showing the actual street car service provided by the Toronto Railway Company, on all the different routes in the City, for the purpose of ascertaining if the company were carrying out the time-table recommended by the City Engineer.

#### CATTLE MARKET DRAINS.

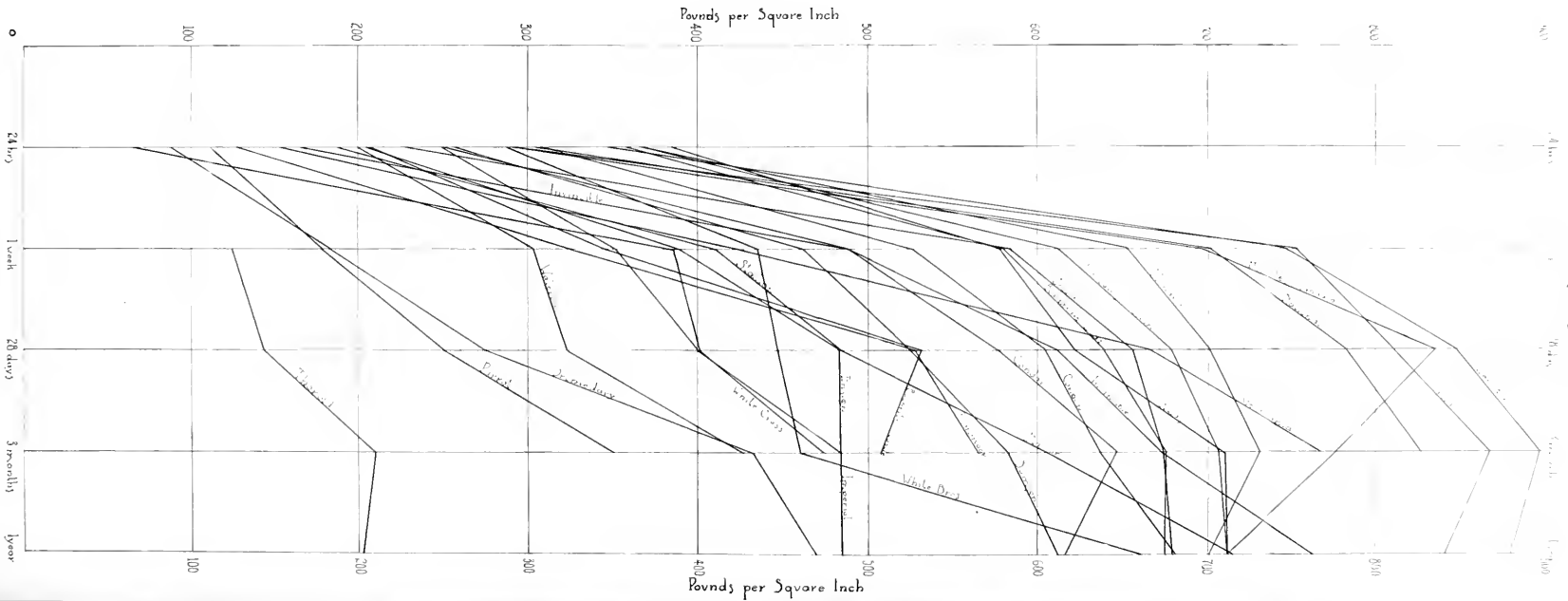
In connection with improving the drainage system at the Western Cattle Market a great deal of work has been done, a gang of men having been employed at this work for three months, during which time over four thousand feet of new tile pipe drain was laid and several old drains were taken up and relaid with improved grades.

#### PRIVATE DRAINS.

The following is a statement showing the length in feet of the private drains constructed during the year:

Month.	6-in. ft.	9-in. ft.	12-in. ft.
January .....	750	20	....
February .....	1,145	99	40
March .....	3,306	33	....
April .....	2,510	96	....
May .....	1,915	116	....
June .....	1,670	33	....
July .....	1,817	99	....
August .....	2,169	154	....
September .....	2,225	162	....
October .....	3,589	251	....
November .....	3,071	163	....
December .....	904	33	....
Total .....	25,071	1,259	40

# HEAT CEMENT TESTS 1903



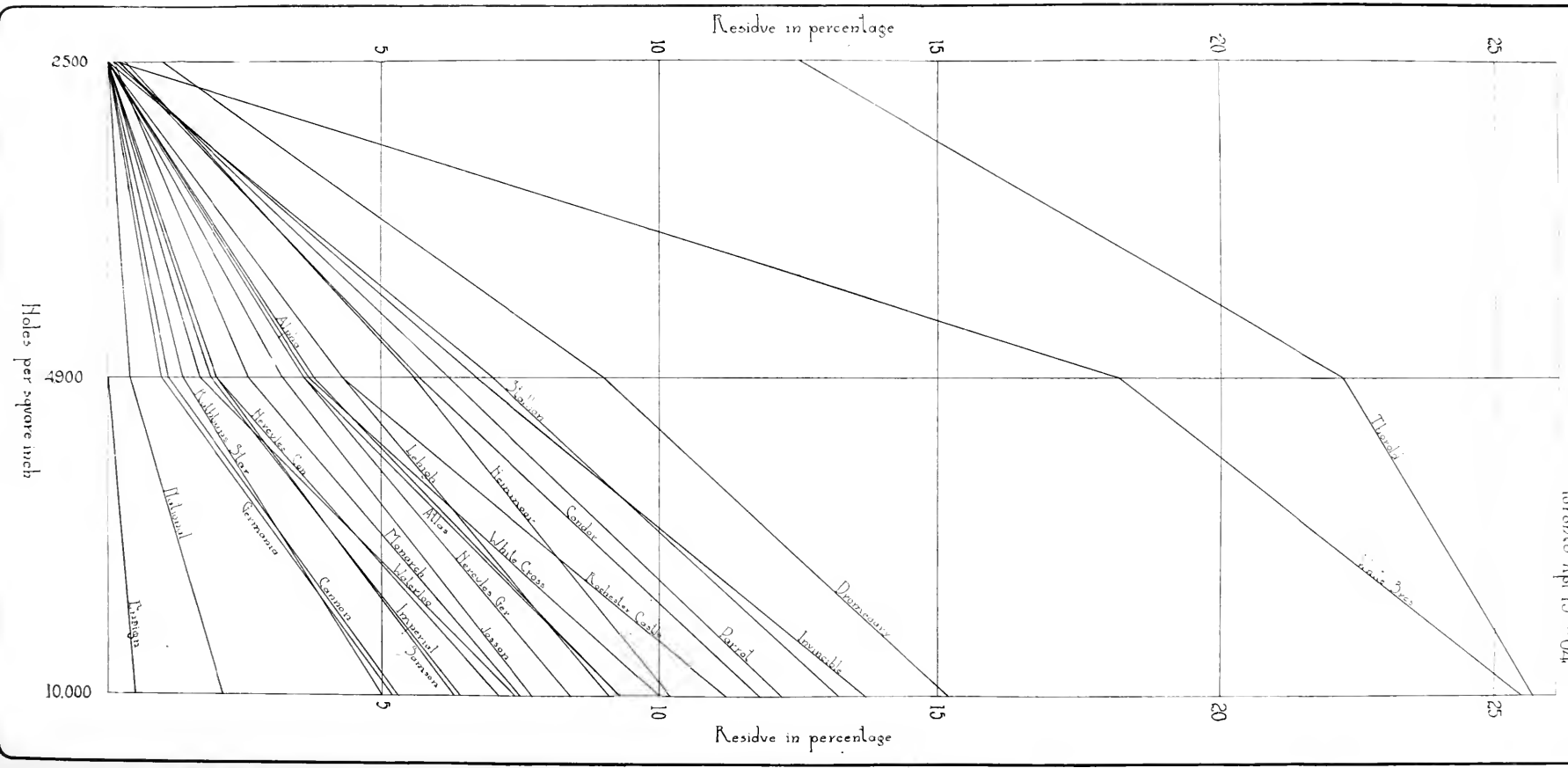
City Engineers Office  
Toronto April 11-04



# CEMENT SUPPLY RECORD

1903

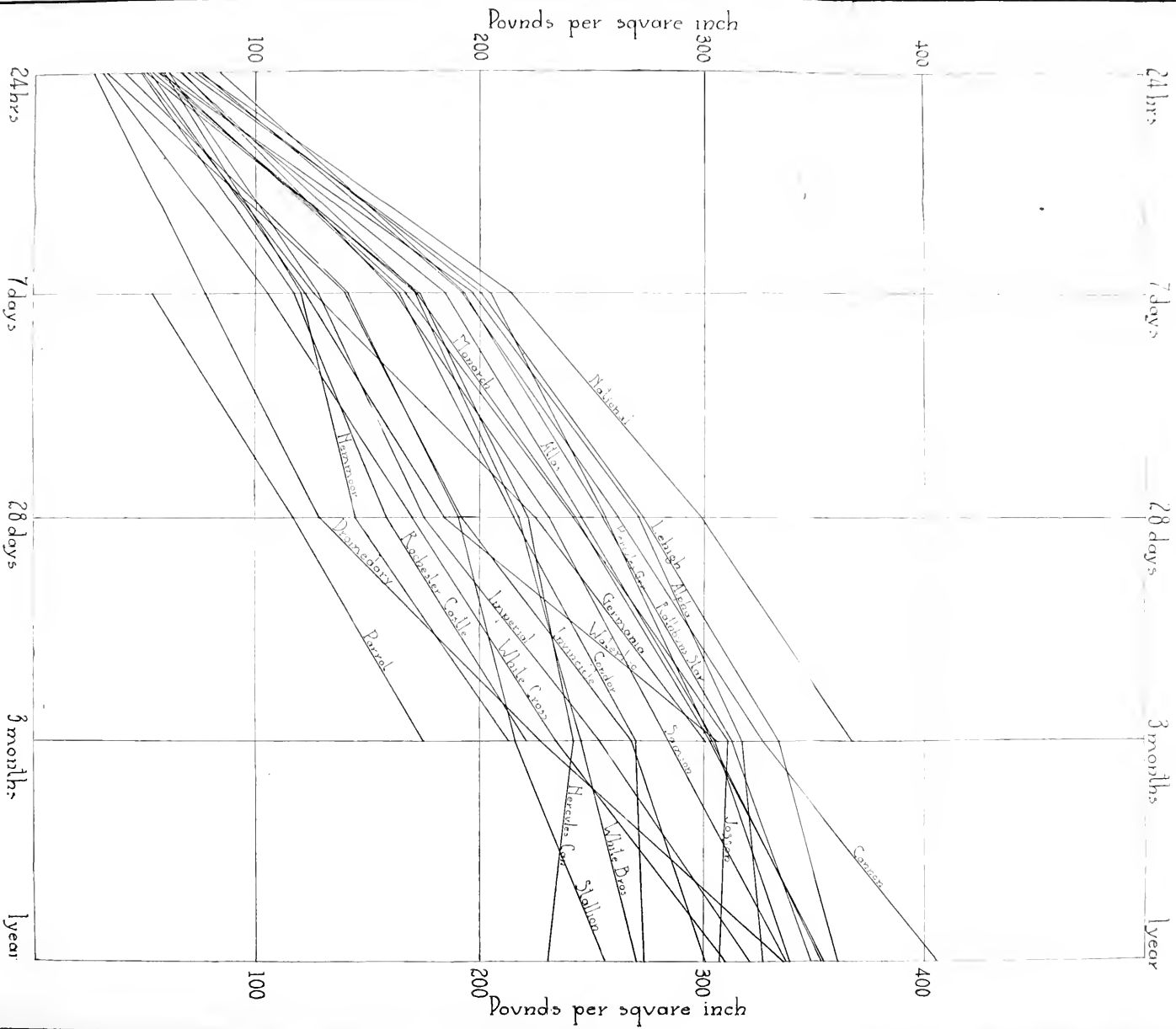
C. E. Loggins & Co.  
Portland, April 15th, 1904





# THE NEW METHOD OF RATIO OF SAND TO PART OF CEMENT

1896







In addition to the above, 69 private drains were repaired and 24 flushed.

#### DREDGING SEWAGE DEPOSITS OUT OF SLIPS.

The sewage deposited in the following slips has been dredged out during the year:

- Yonge Street sewer outlet.
- Church Street slip.
- Jarvis Street slip.
- Sherbourne Street slip.
- Berkeley Street slip.

The total quantity removed from the above slips (18,376 cu. yds.) was towed out of the harbour in scows, and dumped in Lake Ontario at a point eight miles south of the Island. The cost of this work, including inspection, was \$6,389.33.

#### SURVEYS AND SOUNDINGS.

A complete survey of Toronto Bay, with soundings, was commenced early in the year and continued for about one month, when the work had to be discontinued owing to the breaking up of the ice. More than half the survey has been completed, and it is our intention to resume the work when the condition of the ice will permit.

#### DAY LABOR.

During the year seventeen sewers were constructed by day labor, for eleven of which the City Engineer's tenders were the lowest received; and in two instances his was the only tender; the remaining four were for different reasons laid by day labor without calling for tenders. Table No. 2 is a list of these different sewers and shows their length, size, and also the amount of the City's tender, the next lowest contractor's tender, the actual cost of the work, etc. The last two columns show the loss or gain to the City when the actual cost is compared with the amount the work would have cost, if the City Engineer had not tendered and the contracts had been awarded to the contractor submitting the lowest tender; besides there would have been the additional cost of inspection, if the work had been done by contract.

There is only one loss to record and that is in connection with the short extension (144 lineal feet) of the sewer on MacDonell Avenue. The sewer on the portion of MacDonell Avenue, between

Queen Street and the point where the extension was to commence, had been laid for several years and we thought the ground would have been fairly dry, but unfortunately found quick-sand less than three feet from the surface, which made the excavating much more expensive than we anticipated and caused a loss of \$90.98. All the other works resulted in gains which aggregate \$4,610.20; after deducting the loss of \$90.98, the net gain to the City through constructing these sewers by day labor is \$4,519.22.

The City's were the only tenders for the sewers on Gibson Avenue and Hallam Avenue, so there is neither loss nor gain shown in the table, but the work in each case was done for less than our tendered price.

Table No. 1 shows all the sewers constructed during the year.

Yours respectfully,

W. A. CLEMENT,

*Assistant Engineer.*

## RECORD OF CEMENT TESTS, JULY 1st, 1902, to JULY 1st, 1903.

Brand.	No. of Samples tested.	No. of Samples rejected.	No. of Briq. tes.		Soundness.	Specific Gravity.	Residue in % on sieves.			Setting in Minutes.	Water used in Mixing in %	Tensile Strength in Pounds per square inch.										Sulphuric Anhydride in %	Remarks.				
			Moulded.	Broken.			Fajita Test.					Initial.		Final.		Neat.					3 to 1.						
							No. 30 Sieve.	No. 70 Sieve.	No. 100 Sieve.			24 hours after hard set.	7 days.	28 days.	3 months.	1 year.	24 hours after hard set.	7 days.	28 days.	3 months.	1 year.						
Alpha.	18		230	216	O.K.	3.177	0.0	3.8	9.3	226	339	21.1	10.0	292	753	811	868	841	57	197	271	317	327	1.42	United States.		
Atlas.	28		230	216	O.K.	3.100	0.0	3.6	9.3	152	387	20.0	10.0	385	579	622	710	712	61	186	246	305	339	2.19	German.		
Canon.	11		180	150	O.K.	3.000	0.0	1.1	5.3	106	285	25.5	10.0	309	527	605	637	681	84	193	262	326	406	1.72	Belgian.		
Condor.	5		60	56	O.K.	3.078	0.2	5.7	11.8	137	393	24.8	10.5	251	489	577	647	616	58	165	215	270	274				
Dromedary	1		20	20	O.K.	2.890	1.0	9.0	15.2	270	420	30.0	12.0	89	183	276	433	470	27	87	129	228	337				
Euseign	1		5	4	O.K.	2.830	0.0	0.0	0.5	80	205	23.5		205	390	484	485								Canadian (sand c'm't).		
Germania.	1		10	8	O.K.	3.090	0.0	1.0	5.4	180	390	25.0	10.0	151	425	666	767		50	126	225	300			German.		
Hennucoor	1		20	16	O.K.	3.090	0.3	5.6	10.2	55	145	26.0	10.0	128	326	528	566		59	121	145	213					
Herules.	26		270	252	41% failed	3.159	0.0	2.0	7.1	120	240	25.0	10.4	292	696	836	777	711	51	174	222	242	251	1.27	Canadian.		
Imperial.	3		80	76	O.K.	3.100	0.0	3.6	8.4	186	384	24.7	10.0	366	612	679	707	711	69	205	256	304	354	1.91	German.		
Invincible	3		140	136	O.K.	3.213	0.0	1.9	6.2	40	153	25.3	10.0	250	552	400	484	485	61	128	176	254	321	1.96	Canadian.		
Josson.	1		100	96	O.K.	3.126	0.1	6.7	13.7	78	180	22.6	10.0	166	489	612	673	763	33	141	192	268	301	1.31	Belgian.		
Lehigh.	10		20	20	O.K.	3.050	0.0	3.2	7.7	420	600	24.0	10.0	228	584	656	675	680	56	167	242	311	308		Belgian.		
Monarch	98		1440	1384	O.K.	3.183	0.0	4.3	9.1	166	356	20.2	9.9	318	746	849	897	880	79	201	273	334	361	1.48	United States.		
National	20		330	254	O.K.	3.155	0.1	2.6	7.5	176	355	21.0	10.0	368	653	701	731	701	66	175	242	303	355	1.57	Canadian.		
Parrot	1		20	17	O.K.	2.810	0.2	6.2	12.2	80	185	30.0	10.0	307	701	783	827		74	214	299	367		1.48	Belgian.		
Rochester's Star	111		1650	1515	O.K.	3.140	0.0	1.4	5.0	123	305	25.0	10.0	359	581	640	674	676	75	193	255	313	349	1.76	Canadian.		
Rochester Castle.	2		40	29	O.K.	3.080	0.0	4.3	11.2	6	8			100	297	345	508		49	117	159	221			English.		
Sanson.	28		360	357	7% failed	3.118	0.0	2.0	6.5	107	252	23.6	10.0	257	462	525	583	612	67	163	231	284	338	1.73	Canadian.		
Shallon.	1		20	19	O.K.	3.010	0.0	7.9	13.2	135	360	23.8	10.0	186	411	484	606	714	41	132	191	216	256		United St's (natural).		
Thorold	1		20	15	O.K.	2.820	12.5	22.2	25.7	20	60	33.0		125	144	210	203								Canadian (natural).		
White Bros.	2		20	20	Both failed	3.155	0.2	18.2	25.5	13	57	20.0	10.0	288	435	448	461	661	53	172	217	245	270		Belgian.		
White Cross.	1		10	10	O.K.	3.070	0.1	3.7	10.0	145	310	26.0	10.0	66	387	402	475		31	106	170	234	310		Belgian.		
	354		35	51	20	4622																					



TABLE No. 1.

SHOWING SEWERS CONSTRUCTED DURING THE YEAR 1903.

Street.	From.	To.	Size.	Description.	Length in feet.	No. Manholes.	No. Gullies.	No. P. D. Constd.	Average Depth.	Nature of Soil.	Inspector or Foreman.	Contractor.
Macdonell Ave.	a pt. 134 ft. n. Wright	a pt. 144 ft. further n.	12 in.	Tile pipe	144	1	0	12 11	9 ft. in.	6 quick sand	G. R. Carrette	Day Labor
Rosedale Rd.	Pine Hill Rd.	200 ft. north.	12 "	"	200	1	0	6 11	10 "	10 clay	R. Patterson	" "
Beatrice	420 ft. n. of College	500 ft. north.	15 "	"	500	2	2	40 12	8 "	"	G. R. Carrette	" "
Wallace Ave.	Dufferin	a pt. 1319 ft. 6 in. w.	12 "	"	1352 ft. 6 in.	2	6	100 11	5 "	"	Wm. Hill	T. O'G. & P. & G. Co.
Grace.	College	470 ft. north.	18 "	"	507	2	2	32 12	8 "	"	"	Jno. F. Connolly
Ketchum Ave.	Davenport Rd.	a pt. 75 ft. n. Scollard	12 "	"	281	0	0	9 10	10 "	10 sand.	G. R. Carrette	Day Labor
Ritchie Ave.	Herman Ave.	a pt. 312 ft. north.	12 "	"	312	1	2	20 9	0 "	"	R. Patterson	" "
Poncher.	Pape Ave.	Smith	12 "	"	776	4	4	40 10	6 "	"	G. R. Carrette	" "
Indian Rd.	G. T. Ry.	219 ft. north.	12 "	"	219	0	1	0 2	0 "	0 black loam	"	" "
Chestnut Pk Rd.	Roxborough	Roxborough	12 "	"	1505	11	0	43 11	10 "	10 clay	Carrette & Pat' son	" "
St. Clarens Ave.	Wallace Ave.	Lapin Ave.	15 "	"	958	4	6	70 12	0 "	0 wet sand.	Wm. Hill	E. Axworthy
Chapel	St. Mary.	Inkerman	12 "	"	236	3	2	8 9	8 "	8 sand & clay	Geo. Jones	Jno. Maguire
Kendall & Cashe Av	Walmer Rd.	Dupont	12 & 15 in.	"	1887 ft. 6 in.	8	13	112 10	10 "	10 hard clay.	R. Patterson	Day Labor
Pearce.	St. Helens	G. T. Ry fence	12 "	"	305	3	2	16 9	11 "	11 quick sand	Wm. Hill	E. Axworthy
Cummings.	DeGraaf.	Wardell	12 "	"	326	3	2	20 11	6 "	6 clay	"	"
Dora Ave.	St. Helens.	West end	12 "	"	300	2	2	16 10	0 "	0 wet sand.	G. R. Carrette	Day Labor
Queen	W. S. of Ashport Ave	329 ft. 6 in. east.	12 "	"	329 ft. 6 in.	1	0	23 6	0 "	0 sand	Geo. Jones	Jno. Maguire
Campbell & Wallace	Symington Ave.	Irving Ave.	15 "	"	1285	6	8	90 11	9 "	9 quick sand	Carrette & Huelsen	Day Labor
Hepbourne	Ossington Ave.	Dovercourt Rd.	12 "	"	957	1	6	44 10	11 "	11 clay	R. Patterson	" "
Bernard Ave.	Kendall Ave.	Dupont	12 "	"	1110 ft. 6 in.	3	8	74 10	0 "	0 hard clay.	Wm. Hill	Jno. Maguire
Manchester Ave.	Ossington Ave.	Shaw	15 "	"	631	3	6	43 8	0 "	0 clay	R. Patterson	Day Labor
Victor Ave.	Logan Ave.	to a pt. 145 ft. east	12 "	"	175	1	0	8 9	6 "	6 sand	Geo. Jones	J. H. McKnight
Hogarth Ave.	Logan Ave.	to a pt. 642 ft. w.	12 "	"	672	2	2	46 11	5 "	5 sand & clay	Wm. Hill	" "
Pape Ave. Extension	Eastern Ave.	Keating's Channel.	14 "	"	1074	1	0	0 3	0 "	0 made ground	Wm. Douglas	Day Labor
Gibson Ave	a pt. 106 ft. w. Yonge	(a pt. 306 ft. 6 in.)	12 "	(Box )	590	3	0	24 11	2 "	2 clay	R. Patterson	" "
Hallam Ave.	Ossington Ave.	(further west )	12 "	(Drain )	289	2	2	12 10	3 "	3 "	"	" "
Natalie	Logan Ave.	Preston Ave.	12 "	Tile pipe	463 ft. 6 in.	2	2	28 8	2 "	2 "	Geo. Parsons	Axworthy & Davidson





## BRIDGES, WHARVES. ETC.

CITY ENGINEER'S OFFICE,  
Toronto, December 31st, 1903.

MR. C. H. RUST,  
*City Engineer.*

DEAR SIR,—The following is a report of work done under the above heading during 1903 :

WINCHESTER STREET BRIDGE.—When repairs were made to this bridge in the fall of 1902, it was found that several of the floor beams were showing signs of decay at the centre of the trusses where the vertical rods passed through. In the spring of this year some 4-inch oak pads were placed under the beams at this point, the screwed part of the rods being fortunately long enough to take washer plates under the oak pads.

The walings on the spring piles at the north side of the bridge, which were torn away by the ice in the spring freshets, were renewed.

The sheeting and walings at the mouth of the Rosedale sewer, were also renewed and thoroughly repaired.

LAMB'S BRIDGE.—This bridge has practically been re-built, and has been changed from a draw bridge to a swing bridge. One man can now easily open and close it. Rest piles should be put in if possible, to sustain the bridge when open. The storms and ice have cut into the bank on this channel and will shortly take away the sidewalk also if piling is not put in.

CHERRY STREET BRIDGE.—A new deck has been put on this bridge, and as the Grand Trunk Railway raised all their tracks at this crossing, I had the north end of the bridge raised to suit the new levels, and the approach re-planked and strengthened. Some new joists were also put in the bridge. The crib carrying the centre of this bridge is showing signs of settlement, and should the bridge have to be opened, which was not done during this year, it will have to be adjusted.

GLEN ROAD BRIDGE.—This bridge has been thoroughly scraped, cleaned and painted in every part. All loose parts were screwed up and the horizontal bracing so secured as to prevent rattling. Some slight repairs were made to the deck and sidewalks.





City Engineers Office  
12.2.03 12.2.03

LAMB'S BRIDGE ACROSS KEATING'S CHANNEL.



SHERBOURNE STREET BRIDGE.—A new wearing course of planking has been put on this bridge and some slight repairs made to the sidewalk. This bridge is in great need of painting, as it is very badly corroded in many places.

DUNDAS STREET BRIDGES.—These bridges have been thoroughly scraped, cleaned and painted in every part. The gutter boards and sidewalks should be renewed during the coming season. The hand-rails, standards and fastenings also require some repairs and adjustment.

HUNTLEY STREET BRIDGE.—This bridge needed only slight repairs, which were made.

CASTLE FRANK BRIDGE.—A new wearing course was put on this bridge. The trestlework is in a bad condition and will need some shoring and strengthening during the coming season. I think it would be a good thing to shorten this bridge to about half its present length. The only difficulty would be that it would have to be closed for some time so that the approaches might be filled in with earth.

GERRARD STREET BRIDGE.—A new wearing surface has been put in between the tracks. The old stairway at the south-east side of the bridge, which was placed there to accommodate an Island ferry that landed there some years ago, was removed, and a new one built at the north-west end to give convenient access to the playground at Riverdale Park.

YORK STREET BRIDGE.—The sidewalks on the entire length of this bridge and approaches were renewed, with the exception of a small section of the old walk which was in good condition. The hand-railing has been scraped and re-painted by the C.P.R. Co., the City paying half the cost.

SHAW STREET BRIDGE.—The sidewalks on this bridge were renewed and new supports put under them. The hand-railing was repaired, but the feet of bents require repairing.

CRAWFORD STREET BRIDGE.—This bridge is in fairly good condition, but will require some repairs during the coming season, especially at feet of bents.

RIVERDALE PARK FOOT BRIDGE.—This bridge will require a new bottom chord in the near future. It is all right at present.

BINSCARTH BRIDGE.—This bridge is at present good for traffic, but should be entirely re-built in a year or two.

STRACHAN AVENUE BRIDGES.—These bridges are in first class condition in all parts, except the feet of bents and mud-sills, which will require some repairs and overhauling during the coming season.

QUEEN STREET BRIDGE.—This bridge is in a thoroughly good condition.

EASTERN AVENUE BRIDGE.—Some slight repairs will be required to the deck planking and the wood extension to hand-rail will have to be renewed.

CATTLE MARKET BRIDGE.—This bridge is in a very bad condition and requires scraping and painting. It is very badly corroded.

HUMBER RIVER BRIDGE.—Some slight repairs will be required to the deck planking.

ISLAND PARK BRIDGES.—New cribs filled with stone have been placed in the channel to take the place of old piling, which was raised by the ice at the Clandeboye cut, and the wood work was painted.

The deck of the iron bridge has been repaired and all the iron-work scraped, cleaned and painted.

A new foot bridge has been erected at Chippewa Avenue.

A new foot walk about 300 ft. long has been laid from the foot of St. Andrew's Avenue to the lagoon.

QUEEN STREET SUBWAY.—The wood retaining wall at the southwest end, near Gwynne Avenue, has been raised and repaired.

SHAW STREET CULVERT NORTH OF BLOOR STREET.—This culvert is in very good condition and a little attention will keep it all right.

DANFORTH ROAD BRIDGE NEAR JONES AVENUE.—This bridge will need some slight repairs during the coming season.

DUPONT STREET CULVERT.—When the new road and sidewalk was under construction, it was found necessary to build retaining walls at the south side, both east and west, to carry the new sidewalk. These were built of wood and in a good substantial manner.

EASTERN AVENUE CULVERTS.—The supports and deck of two of these culverts have been renewed and made safe for traffic.

LAKE SHORE ROAD CULVERTS.—No repairs were made, but the tops and joists will have to be renewed in the coming season.

## BRIDGE MAINTENANCE AND REPAIRS.

## DETAILS OF COST DURING 1903.

Name of Bridge.	Nails, etc.	Tools and Ir'nwk	Paint, etc.	Sun- dries.	Lumber.	Labor.	Total.
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Winchester St. ....				37 92	42 56	77 10	157 58
Lamb's Bridge ....	11 93	353 28	118 30	78 34	325 58	1,306 20	2,193 63
Cherry St. ....	5 70				319 49	282 55	607 74
Glen Road. ....		3 00	115 28		25 66	654 00	797 94
Island Park. ....		30 00	26 65	35 03	9 92	335 25	436 85
Sherbourne St. ....	41 21			3 30	698 95	289 55	1,033 01
Dundas St. ....			229 00	19 29	47 94	1,383 25	1,679 48
Huntley St. ....						24 75	24 75
Castle Frank. ....					4 34	41 70	46 04
Queen St. Subway ...						31 50	31 50
Gerrard St. ....	20 24	1 80	55		167 71	322 45	512 75
York St. ....	17 98		111 00	48	71 23	275 13	475 82
Shaw St. ....					124 56	231 00	355 56
Eastern Av. Culvert..	6 20				11 76	70 10	88 06
Dupont St. " ..	2 85				61 60	92 70	157 15
							8,597 86

Less for York Street Bridge .... 475 82

" " Dupont Street Culvert.. 157 15

\$632 97 charged to Roadways.... 632 97

Appropriation, \$7,500 \$7,964 89

## DOCKS, WHARVES, LIFE-SAVING AND FREE BATHING.

Yonge St. Wharf ....				46 40	12 01	58 51
Brock " " ....	5 70			165 63	117 90	291 23
Bay " " ....	2 85			14 40	3 60	20 85
Life-Saving Station..				6 88	202 05	208 93
				towing		
Free Bathing " ..				1,406 69	1,118 05	2,524 74
						3,104 26

YONGE STREET WHARF.—In July, 1903, contracts were let for the repair of certain portions of this wharf and to raise and strengthen the east freight shed, in the occupancy of the Geddes Co. While these repairs were being made and some parts of the wharves

uncovered, they were found in such a deplorable state that other and larger contracts had to be entered into, to make them at all safe for public use. The whole of the dock outside the freight sheds, from a few feet south of that portion occupied by the Toronto Ferry Co. on the east side southward, the south side of the wharf and part of the west side, was taken up and new stringers, joists and planking were put in. The portion named is now in a good, sound condition. Most of the planking on the street approaching these wharves from the south side of the railway tracks to Lake Street, also in the wharf yard, was renewed. The west side of the east shed was raised and straightened and the floor at that place repaired. A strong fence was placed at the west of the Toronto Ferry Co's. sheds and next the sidewalk to the first gate southward, as I found carters using the sidewalk and destroying it with their horses and vehicles. The floors inside the freight sheds are in a very bad condition and should be immediately renewed if the present sheds are to be used during the coming season. Part of the floor in the last shed near the north end collapsed with a load of sheet iron in boxes, which was precipitated into the water and mud, causing a considerable loss to the City; this piece of floor was repaired. In the event of this wharf or any portion of it being abandoned, on account of the erection of the Yonge Street Bridge, much of the new timber and planking may be saved and used in renewing the floors in the sheds, the portion uncovered being filled by rubbish.

**BAY STREET WHARF.**—Some general repairs were done only to the approaches to this wharf, but only those that were absolutely necessary for the public safety. A part of the west side was badly charred by the burning of the steamer White Star, but not so badly as to need present renewal.

**DUFFERIN STREET WHARF.**—I have carefully examined this wharf and find it to be altogether unsafe for public use, and if it is intended to make it of further use, it ought to be entirely renewed from the cribs to the top-planking, otherwise it ought to be closed, and part of it torn down so as to make it inaccessible to the public, or probably some serious accident may occur.

**FROCK STREET WHARF.**—Some repairs were made on this wharf, but only such as were necessary for the safety of the public. The stringers and joists and the top timbers on the cribs are in a

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very bad condition, and the whole structure should be renewed from the cribs upwards.

LIFE-SAVING STATIONS.—The necessary buoys, poles, etc., have been inspected regularly and replaced where lost or stolen. Some new stations have been established, notably at both sides of the eastern entrance and further east.

FREE BATHING.—All the temporary sheds used for this purpose (except the one at the Woodbine, which was destroyed and the material stolen or washed away), have been taken down and the material stored away. The tent and spring-board used on the Don flats is stored at Riverdale Park. This material will be used in the coming season, but I would suggest that more permanent structures should be built, so that this yearly dismantling and rebuilding may be avoided. The station at Sunnyside is finely situated for a good, permanent building, which I think may be made profitable and useful to citizens who would pay for a good comfortable bathing place.

Respectfully submitted,

JOHN WILLIAMS.

*Ass't Engineer.*

# REPORT OF STREET COMMISSIONER

STREET COMMISSIONER'S OFFICE,

Toronto, December 31st, 1903.

C. H. RUST, Esq.,

*City Engineer.*

DEAR SIR—I beg to submit herewith a report of the works carried out under my supervision during the year ending December 31st, 1903.

## ROADWAYS.

The movement on the part of the property owners to secure new roads on their respective streets is gratifying. The repairs to the different classes of roads have been carried out to the best advantage with the funds appropriated for the different services. The branches of roadway work are divided under the following headings:—Macadam Road Repairs, Local Improvement Macadam Road Repairs, Cedar Block Road Repairs, Stone Road Repairs, Gravel Road Repairs, and General Road Repairs (Unimproved Roads).

MACADAM.—Special re-surface repairs have been made on pavements that were constructed as Local Improvements, which were as under.

Street.	From.	To.	Sq. Yards.	Cost per yard.	Cost.
				cts.	\$ c.
Shuter.....	Jarvis .....	Sherbourne .....	1,613	24.09	388 61
Front.....	George.....	Trinity .....	5,438	23.59	1,283 09
John.....	King .....	Front .....	1,267	18.36	232 74
Shuter.....	Yonge .....	Jarvis .....	2,240	22.77	510 09
Spadina.....	King .....	Front .....	2,035	20.68	421 04
University.....	Queen .....	Armoury .....	1,149	35.55	408 50
Gerrard.....	Yonge.....	Jarvis .....	2,560	16.69	427 32
Richmond.....	Bay .....	York .....	1,177	16.52	194 48
Grosvenor.....	Yonge.....	West End .....	1,430	16.03	229 29
St. Mary.....	Yonge.....	West End.....	1,325	15.22	201 72
Dalhousie.....	Queen .....	200 ft. north .....	445	29.31	130 43
North.....	St. Mary.....	Bloor .....	715	15.72	112 40
Sheppard.....	Adelaide .....	Richmond .....	558	14.38	80 29
South Drive.....	Sherbourne.....	350 ft. west. ....	389	29.76	115 87
Strachan.....	Queen .....	Bridge.....	2,044	37.29	762 26
Wellington.....	Strachan.....	Tecumseth.....	3,200	20.04	641 51

Average cost, 22.25 c. per square yard.



The older macadam roads not constructed as Local Improvements have been maintained as well as possible with the funds appropriated. I give below a list of some of the macadam roads that did not require re-surfacing, but have been repaired in places. The expenditure under this heading was \$4,483.77.

Macadam roadways that did not require re-surfacing, but which have been repaired in places :

Street.	From	To
Bay .....	Railway tracks .....	Lake .....
Lake .....	Bay .....	York .....
Sumach .....	Gerrard .....	Spruce .....
Sword .....	Gerrard .....	Spruce .....
Spruce .....	Sumach .....	River .....
DeGrassi .....	Queen .....	Gerrard .....
Wellesley .....	Parliament .....	Sumach .....
Parliament .....	King .....	Mill .....
Jarvis .....	King .....	Queen .....
Isabella .....	Jarvis .....	Sherbourne .....
South Drive .....	Huntley .....	Glen Rd .....
Carlton .....	Sackville .....	Sumach .....
Shuter .....	Jarvis .....	Sherbourne .....
Elm .....	Yonge .....	University .....
Queen Street Ave .....	Queen .....	College .....
Teraulay .....	Queen .....	Albert .....
Avenue Rd .....	Bloor .....	South end .....
Bismarck .....	Yonge .....	Park Rd .....
Richmond .....	Bay .....	York .....
Temperance .....	Yonge .....	Bay .....
Albert .....	James .....	Teraulay .....
Givens .....	Queen .....	Argyle .....
Montrose .....	Arthur .....	College .....
Portland .....	King .....	Queen .....
Wilton .....	Parliament .....	200 ft. east .....

The pavements other than the classes mentioned above, viz., cedar block, stone, and unimproved roads, have been maintained as well as possible. The expenditure under these headings was as under :

Stone roadways .....	\$ 437 46
Cedar block roadways .....	1,701 72
Unimproved roads .....	1,993 68

## GRAVEL.

The repairs on gravel pavements were as follows, the expenditure being \$377.08 :

Street.	From.	To.	Cost.	
			s.	c.
Macdonnell .....	Queen .....	Pearson .....	72	90
Lansdowne .....	Marion .....	Union .....	46	43
Dunn .....	King .....	Empress Cr. ....	65	25
Peel .....	Gladstone .....	Dufferin .....	6	94
O'Hara .....	Marion .....	North Terminus ..	21	70
Beaconsfield .....	Dundas .....	Argyle .....	19	58
Melbourne .....	Dufferin .....	Elm Grove .....	36	78
Brock .....	Dundas .....	Middleton .....	71	31
Dufferin .....	Dundas .....	Florence .....	33	07

If you will remember, I mentioned the question in my report of last year, that it should be determined whether these gravel roads were to be maintained a greater length of time than their lifetime. The lifetime of these roads was estimated as being three years, and they have been maintained for six years. It is unreasonable to maintain a road of this class for so long a period over the lifetime.

**DUFFERIN STREET.**—On account of the Dominion Exhibition being held in this City the City Council directed that the pavement on Dufferin Street, between King Street and the railway tracks, should be put in order for the Exhibition. The old cedar blocks were coated with screened gravel, and the pavement south of Huxley Street repaved with cedar blocks, the cost of the whole work being \$576.49.

**YORK STREET BRIDGE REPAVING.**—In connection with the paving of York Street Bridge, a portion of the pavement for  $48\frac{1}{2}$  feet in length, by  $11\frac{1}{4}$  feet in width, commencing 84 feet south of the street line of Front Street, was paved with tamarac blocks, treated by the United States Wood Preserving Co. The floor was coated with pitch, over which was laid 2 layers of 3-ply felt. This felt was coated with pitch and the blocks laid on a cushion of stone dust, and the interstices filled with pitch and dry stone dust. The cost of this work was \$170.34.

**DOVERCOURT ROAD TURNOUT.**

For, and at the expense of the Toronto Street Railway Company, a turnout was constructed on the west side of Dovercourt Road, north from Shanley Street for a length of 270 feet, and 8 feet in width.



LAMB'S BRIDGE ACROSS KEATING'S CHANNEL.



This turnout was constructed of vitrified brick on 6 inches of concrete. The work was done late in the fall, and the frost interfered somewhat in the construction of same.

#### TRACK ALLOWANCE, BATHURST AND FRONT.

Considerable work was done in connection with track allowance on Bathurst Street from King to Front Streets, and on Front Street from Simcoe to Bathurst Streets, particularly at the intersection of Bathurst and Front Streets.

#### WOODEN SIDEWALKS.

Pursuant to the order of Council the undermentioned sidewalks have been constructed at the general City expense :

West Don Esplanade. ....	Queen to Eastern Avenue.
North side of Harbord. ....	Markham to Manning Avenue.
“ “ of Guelph. ....	Pape Avenue to 230 feet west.
“ “ of Barton Avenue. ....	Manning Avenue to Christie.

Repairs to plank sidewalks have been made as occasion required, consistent with the funds appropriated by Council for this service. The expenditure for repairs in connection with this service was \$7,999.52. The sum appropriated is very inadequate for the proper repair for the very large mileage of sidewalks throughout the city. As I pointed out last year, the funds seem to grow less, as the wooden walks become in a more worn and unsafe condition. Material and labor have both increased, and as a result much less repairs for the same amount can be made to-day than a few years ago. I prepared early in the year a list of walks that required renewing, and a great many have been recommended and constructed, but there are a large number yet that have not been attended to, and I would urge that their construction be proceeded with as soon as the weather will permit in the spring.

The wooden sidewalks constructed during the year were as follows :

3 feet .....	179 feet.
4 “ .....	44,064 “
5 $\frac{1}{2}$ “ .....	10,572 “
6 “ .....	2,406 “
	<u>57,221 feet.</u>

Representing in all about 11 miles.

I attach a list of sidewalks, constructed as Local Improvements, showing the cost, etc.

## SIDEWALK EXTENSIONS, ETC.

Short extensions in sections of plank sidewalks have been constructed, for which there has been received and paid to the City Treasurer \$1,086.96. On miscellaneous accounts there has been received and paid to the City Treasurer \$1,728.11.

## STREET OPENING PERMITS.

Permits to the number of twenty (20) have been issued to builders, contractors and others, desirous of temporarily removing a portion of the sidewalk. A deposit of \$10 was exacted in each case and held as security until the sidewalk was properly restored.

## SNOW REMOVAL FROM SIDEWALKS.

During the winter of 1902-3, snow was removed from 2,300,203 lineal feet of sidewalk, representing over 45 miles, at a cost of \$6,902.12. The cost was assessed against the property fronting which the sidewalks were cleaned, the rate of cleaning being 3 mills per foot frontage, per cleaning. The details were as follows:

Ward.	Miles.	Feet.	Cost.
1.....	65	4,246	\$1,043 91
2.....	23	154	363 36
3.....	16	2,738	261 81
4.....	52	3,360	834 15
5.....	121	414	1,918 17
6.....	156	3,051	2,480 72
	<u>435</u>	<u>3,403</u>	<u>6,902 12</u>

## CROSSINGS.

Permanent scoria block crossings to the number of 83 were constructed during the year, and I would recommend a continuance of this policy for 1904. The crossings constructed are of a permanent nature and make a very clean and safe crossing. The wood crossings have been maintained in as good a condition as possible. The expenditure under this heading for renewal and repairs was \$3,605.73.

## SCORIA BLOCK CROSSINGS CONSTRUCTED DURING 1903.

Street.	Line with the	Street.	Size.
			Feet.
Across Elizabeth .....	Line with the s.s. . .	Elm .....	32 x 4
" Chestnut .....	" " n.s. . .	Elm .....	32 x 4
" Chestnut .....	" " n.s. . .	Chestnut Pl. ....	49 x 4
" Cluny .....	" " s.s. . .	Crescent Rd. ....	20 x 4
" Richmond .....	" " w.s. . .	Berti .....	45 <sup>1</sup> / <sub>2</sub> x 4
" Brant .....	" " s.s. . .	Adelaide .....	30 x 4
" Morrison .....	" " s.s. . .	Adelaide .....	36 x 4
" Laplante .....	" " n.s. . .	Gerrard .....	34 x 5
" Gerrard .....	" " w.s. . .	Laplante .....	22 x 5
" Gerrard .....	" " e.s. . .	Elizabeth .....	23 x 5
" Britain .....	" " e.s. . .	George .....	26 x 5
" Duchess .....	" " e.s. . .	George .....	33 x 5
" George .....	" " n.s. . .	Duchess .....	40 x 5
" Cumberland .....	" " e.s. . .	Bellair .....	20 x 5
" Cumberland .....	" " w.s. . .	Bellair .....	20 x 5
" Bellair .....	" " n.s. . .	Cumberland .....	24 x 5
" Bellair .....	" " s.s. . .	Cumberland .....	24 x 5
" Elm .....	" " w.s. . .	Chestnut .....	30 x 5
" Elm .....	" " w.s. . .	Elizabeth .....	30 x 5
" Wellington .....	" " e.s. . .	Bathurst .....	22 x 5
" Rosedale Rd. ....	" " w.s. . .	Pine Hill .....	24 x 4
" Prospect .....	" " e.s. . .	Parliament .....	30 x 5
" Wilton .....	" " w.s. . .	Bellshaw .....	32 x 4
" Davenport Rd. ....	" " opp. . .	Jesse Ketchum School	24 <sup>1</sup> / <sub>2</sub> x 6
" Crescent Rd. ....	" " n.s. . .	South Drive .....	29 x 4 <sup>1</sup> / <sub>2</sub>
" Grange Rd. ....	" " e.s. . .	John .....	24 x 5
" Victoria .....	" " s.s. . .	Gould .....	36 x 5
" Gould .....	" " w.s. . .	Victoria .....	36 x 5
" Louisa .....	" " e.s. . .	Teraulay .....	30 x 7 <sup>1</sup> / <sub>2</sub>
" Laxton Ave. ....	" " w.s. . .	Jamieson .....	17 x 7 <sup>1</sup> / <sub>2</sub>
" Chestnut .....	" " s.s. . .	Agnes .....	31 <sup>1</sup> / <sub>2</sub> x 4
" Agnes .....	" " e.s. . .	Chestnut .....	34 <sup>1</sup> / <sub>2</sub> x 4
" Agnes .....	" " n.s. . .	Chestnut .....	32 x 4
" Edward .....	" " w.s. . .	Chestnut .....	32 x 4
" Agnes .....	" " e.s. . .	Centre .....	44 x 4
" Centre .....	" " n.s. . .	Agnes .....	24 x 4
" Agnes .....	" " w.s. . .	Centre .....	42 x 4
" Centre .....	" " s.s. . .	Agnes .....	26 x 4
" Edward .....	" " w.s. . .	Centre .....	40 x 4
" Edward .....	" " e.s. . .	Centre .....	43 x 4
" Maple Ave. ....	" " w.s. . .	Glen Road .....	25 x 5
" Lisgar .....	" " n.s. . .	Afton .....	26 <sup>1</sup> / <sub>2</sub> x 4
" Afton Ave. ....	" " w.s. . .	Lisgar .....	26 <sup>1</sup> / <sub>2</sub> x 4
" Front .....	from n.-w. to s.-e. cor	West Market .....	38 x 4
" Front .....	Line with the w.s. . .	Jarvis .....	60 x 6
" Gerrard .....	" " e.s. . .	Sumach .....	25 x 6
" Chestnut .....	" " . . . .	M. E. Church No. 94.	32 x 4 <sup>1</sup> / <sub>2</sub>

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### CURBING.

The small amount appropriated by Council for maintaining the curbing throughout the City is not sufficient for this service. The funds available permit only the replacing of a piece of curbing here and there, but will not permit of any general repairs of either stone or wood curbing. If the appropriation was doubled the appearance of many of the streets would be very much improved, as it would permit of repairs being made that otherwise cannot be done. The expenditure under this heading was \$617.72.

### WEED CUTTING.

The additional funds appropriated by Council for this service have permitted a more extensive destruction of the noxious weeds on the streets of the City. If Council will see their way clear to grant a similar amount to that passed last year, I propose to continue the destruction of noxious weeds, particularly on the streets on the outskirts of the City where the greatest trouble is experienced.

### HOUSE OF INDUSTRY STONE.

During the winter 1902-3, the casual inmates of this institution broke stone for roadway purposes to the amount of 59 toise. The teaming, sledging, measuring, etc., necessitated the expenditure of \$435.83.

### DOG TRAPPING.

The service of dog trapping was transferred to this Department December 28th, 1903, although arrangements were made for the service to be undertaken by this Department for the season of 1903. There was transferred to this Department from the Property Department one dog-trapping wagon and some worn-out nets. The latter had to be renewed and the wagon over-hauled, etc. Provision had to be made for the storage of the dogs captured as provided by the By-law. The service was put in operation on July 8th, and ceased on August 22nd, a period of over six weeks. The number of dogs captured, released and disposed of was as follows :

	<i>Captured, etc.</i>	Dogs.	Bitches.
Caught by the trappers .....		171	47
Received at the Pound ... ..		15	
Total .....			233
<i>Disposal.</i>			
Released on payment of fine.....		29	
Released on production of license .....		48	
Destroyed .....		109	47
The money collected in fines amounted to \$58.			



## STREET WATERING.

During the winter 1902-3 the Toronto Railway Co. built a fourth trolley sprinkler for the street watering service. The total mileage traversed by the four sprinklers was 25,992 miles, for which the City paid the Toronto Railway Co. at the rate of  $16\frac{1}{4}$  cents per mile. The details of the service were as follows:

No. 1 Sprinkler (capacity 2,500 gallons) commenced on March 26th, taken off on September 11th. There were 3,064 loads of water used, representing .....	7,660,000 gallons.
Mileage, 5,509 Miles.	
No. 2 Sprinkler (capacity 2,800 gallons) commenced on April 12th, taken off on October 17th. There were 3,751 loads of water used, representing .....	10,502,800 gallons
Mileage, 7,723 miles.	
No. 3 Sprinkler (capacity 2,800 gallons) commenced on April 7th, taken off on October 5th. There were 3,516 loads of water used, representing.....	9,844,800 gallons.
Mileage, 6,436 miles.	
No. 4 Sprinkler (capacity 4,000 gallons) commenced on April 26th, taken off November 14th. There were 1,503 loads of water used, representing.....	6,763,500 gallons.
Mileage, 6,324 miles.	
Total No. of gallons.....	34,771,100 gallons.

The ordinary watering service, viz., by wagons, consumed 42,439,650 gallons of water, representing 84,996 loads of 500 gallons each. The total number of loads both by trolley and by wagons and also the quantity of water consumed was as follows:

	Loads.	Gallons.
By trolley.....	11,834	34,771,100
By wagon .....	84,966	42,439,650
Total.....	96,800	77,210,750

## STREET CLEANING.

The total expenditure for this service, including the ordinary street cleaning, snow removal and the patrol cleaning, was \$66,578.78. The account was made up as follows:

Street cleaning.....	\$40,387 36
Street cleaning (snow).....	4,752 22
Asphalt patrol cleaning .....	21,439 20
Total.....	66,578 78

Referring to the snow removal, I would point out that the expenditure this year was light in comparison with the expenditure of past winters. The total expenditure for snow removal was \$4,752.22.

The amount spent for the removal of snow from streets, whereon the tracks of the Toronto Railway Company are laid, and for the removal of which the Toronto Railway Company paid one-third of the cost, was \$384.45; one-third being \$128.15, and which was charged to the Toronto Railway Company.

The two-thirds of this cost, viz., \$256.30, which was the City's share for the removal of snow from the above mentioned streets, together with the \$4,495.92, which was the amount spent for the removal of snow from bridges, wings of sidewalks, etc., makes the total expenditure by the City for their portion of the snow cleaning, \$4,752.22.

The mileage of streets cleaned by the horse-brooms was 2,157, from which were removed 43,236 loads of sweepings, etc. The cost of this service was \$40,387.36. The long hauls to the dumps is very costly, in fact all sweepings collected in the central portion of the City have to be carted to Ashbridge's Bay for disposal. It is this long haulage that affects this service so considerably. The increased cost of carters' pay from 28 to 31 cents per hour, and teams from 39 to 45 cents per hour, is also a heavy drain, so that the Department cannot get the same results for the same money as heretofore.

It has been pleasing to me on more than one occasion to hear reference made to the clean condition of the streets of this City. In the summer season a very large number of tourists pass through the City, and their comment on the condition of the streets, which I have noticed from time to time, has been gratifying.

#### ASPHALT PATROL CLEANING.

This service began on May 20th and ceased on November 17th. The main asphalted and other streets were cleaned by the uniformed patrol men, their beats being as follows, the expenditure being \$21,439.20.

## ASPHALT PATROLS.

No. of Beat.	Street.	From	To
1...	Yonge	Esplanade	King.
2...	"	King	Queen.
3...	"	Queen	Alice.
4...	"	Alice	Walton.
5...	"	Walton	College.
6...	"	College	Wellesley.
7...	"	Wellesley	Charles.
8...	"	Charles	Davenport.
9...	King	Sherbourne	West Market.
10...	"	West Market	Toronto.
10...	Leader Lane	King	Wellington.
11...	King	Toronto	Bay.
12...	Front	Yonge	Church.
12...	Wellington.	"	"
13...	Scott	Colborne.	Front.
14...	Colborne	Yonge	Church.
15...	Church	Front	King.
16...	"	King	Queen.
17...	"	Queen	Normal School Gate.
18...	"	Normal School Gate	Maitland.
19...	"	Maitland	Bloor.
20...	Bloor	Yonge	Sherbourne.
21...	Jarvis	300 ft. south of Gerrard	Maitland.
22...	"	Queen	300 ft. south of Gerrard.
23...	"	Maitland	Bloor.
24...	Carlton	Yonge	Homewood.
25...	"	Homewood	Parliament.
26...	Adelaide	Church	Yonge.
26...	Toronto	Adelaide	King.
27...	Victoria	King	Queen.
27...	Richmond	Yonge	Victoria.
28...	Queen	"	Mutual.
29...	"	Mutual	Sherbourne.
30...	"	Sherbourne	Parliament.
31...	"	Parliament	River.
32...	"	West side of Don	West side Broadview.
33...	"	West side of Broadview	G. T. R. crossing.
34...	" west	Yonge	East side University.
35...	"	East side University	West side Beverley.
36...	"	West side Beverley	Midway, Cameron & Spad'a
37...	"	Mid. Cameron and Spadina	East side Bathurst.
38...	"	East side Bathurst	Niagara.
39...	King	Bay	Simcoe.
40...	" s. s.	York	Emily.
40...	York	Front	King.
41...	Front	York	Simcoe.
41...	Station	"	"
42...	Simcoe	King	Queen.
42...	Pearl	Simcoe	York.
43...	King	"	Widmer.
44...	"	Widmer	Brant.
45...	"	Brant	Tecumseth.
46...	"	Tecumseth	Armour.

ASPHALT PATROLS—*Continued.*

No. of Beat.	Street.	From	To
47....	Adelaide .....	York .....	John.
48....	" .....	John .....	Spadina.
49....	College .....	St. George .....	Robert.
50....	" .....	Robert .....	Bathurst.
51....	Spadina .....	Queen .....	St. Patrick.
52....	West side Spadina .....	St. Patrick .....	College.
53....	East side .....	" .....	" .....
54....	James .....	Queen .....	Louisa.
54....	Louisa .....	Yonge .....	Teranlay.
54....	Albert .....	" .....	James.
55....	Bay .....	Queen .....	Adelaide.
55....	Richmond .....	Bay .....	Yonge.
55....	Adelaide .....	" .....	" .....
56....	Bay .....	Adelaide .....	Melinda.
56....	Melinda .....	Bay .....	Yonge.
56....	Jordan .....	King .....	Wellington.
57....	Bay .....	Melinda .....	" .....
57....	Wellington .....	Bay .....	Simcoe.
58....	Bay .....	Wellington .....	Front.
58....	Front .....	York .....	Bay.
59....	Bathurst .....	Queen .....	College.
60....	College .....	Yonge .....	Beverley.

## SCAVENGING.

Expenditure .....	\$89,001 22
Collections :	
Loads of ashes .....	123,674
Loads of garbage .....	33,548
Total No. of loads .....	157,222

The above are the figures on the expenditure, and the loads of ashes and garbage collected during the year 1903. The change adopted by the Council under By-law 4235, which was passed April 23rd, 1903, has to some extent assisted in minimizing the collections from factories, etc. The provision that has been made in this By-law wherein it is provided that the Department shall remove all refuse, etc., commonly known as garbage, if placed in approved receptacles and in a place convenient for the collector, necessitated the collector going into the premises for the garbage, carrying the vessel out and replacing the same, and considerably more time is consumed in doing this than would be under the old system, whereby the collector emptied the contents into the cart or wagon after being placed out on the street or alley by the householder. That

you might more clearly follow this matter I quote below sections 1, 2, 3 and 4 of the above By-law. The latter part of Clause 2 provides that waste paper should be securely tied in bundles. Considerable difficulty is experienced in getting institutions to carry this clause out. The Police Commissioners took this matter up late in the Fall and they directed the Chief Constable to assist the Department in preventing the scattering of paper on the streets, etc., and I hope this will be productive of good results.

EXTRACTS FROM BY-LAW No. 4235.

22a (1). The Street Commissioner shall remove from all houses, all kitchen refuse consisting of animal and vegetable matter, commonly known as garbage, if and when placed by the owners or occupants of the several houses, in suitable covered vessels, of an approved pattern, in a place convenient for the collector, and no charge is to be made for the removal of the same.

(2). Ashes, waste paper and rubbish (other than excavations and builders' waste) shall also be removed from all residences, Public, High, Separate and Technical Schools and charitable institutions, Public Hospitals and Public Libraries, without charge, provided, however, that such waste paper is securely tied in bundles.

(3). All ashes and rubbish as referred to in sub-section (2) hereof shall also be removed by the Street Commissioner from all other buildings in the City to the extent of one cart load or cubic yard each week from each such building. Any additional quantity, if removed, shall be charged for at the rate hereinafter mentioned.

(4). The Street Commissioner may remove all ashes and rubbish as hereinbefore mentioned (beyond what the owners or occupants may be entitled to have removed without expense) at the rate of fifty cents per cart load or cubic yard, or twenty-five cents per half cart load or half cubic yard. The City Treasurer shall issue suitable tickets or vouchers at the rate aforesaid, to be delivered to the Street Commissioner when such matter is being removed.

My remarks in reference to the haulage and the increased cost of labor and cartage made under the heading of Street Cleaning applies with greater force to this service than to the former, as a great deal of the teams and carts are hired. The Council during the past year increased the wages of carters from 28 cents to 31 cents per hour, and this increase of 3 cents per hour made a difference of \$2,560.32. This was from June 11th (date of increase) to the end of the year.

The observation that I made in my report of 1902 regarding the filling in of public or private property on the water front, I would reiterate. If it is at all possible to secure any property on the water front as a place for filling, considerable saving could be made on this and the street cleaning account.

I have been forced to take a large number of citizens to the Police Court for the infringement of the By-law governing this service. I regret that this had to be done, but this measure was not adopted until the citizens had been warned. 233 cases were before the Police Magistrate, the greater number of which were disposed of by the defendant being fined.

#### WESTERN DESTROYER.

Since my report of last year, this destroyer has been completed and is doing first class service. I attach a description of the destroyer which doubtless will be interesting. The destruction of garbage, etc., at this destroyer was as follows: the expenditure in operating, including fuel, labor, etc., was \$8,004.25.

Garbage.....	14,787 loads
Cats.....	1,124
Dogs.....	850
Fowl.....	1,238
Fish.....	76 barrels
Fish.....	138 boxes
Fish.....	320 doz. tins
Fruit.....	3 boxes
Eggs.....	95 barrels
Eggs.....	85 cases
Meat.....	46 cases
Meat.....	2 barrels
Meat.....	1 carcass
Yeast.....	4 cases
Cheese.....	3 cases
Cod Liver Oil.....	28 cases
Ink.....	1 barrel
Mattresses.....	1,700
Colt.....	1

#### TRANSFER OF SERVICES.

A number of services formerly controlled by the Property Department have been transferred to this branch. The services that I refer to are Dog Trapping, Cleaning of Public Conveniences, and Express and Cabmen's Shelters. These transfers took effect on December 28th of this year.

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#### PUBLIC CONVENIENCES.

The cleaning of Public Conveniences has been placed under my charge, and I wish to draw your attention to the very bad condition in which I have found them, and I propose to put in the Estimates a sum sufficient to properly maintain these places. If this sum is not granted I would recommend that they be replaced by up-to-date conveniences.

#### EXPRESS AND CABMEN'S SHELTERS.

I also propose to place in the Estimates a sum sufficient to overhaul (by painting, etc.) the shelters that have been provided by the City for the convenience of the expressmen and cabmen. And I would ask that this amount be granted so that these places might be made to look more respectable.

#### CRUSHERS.

The two crushers, one "Good Roads" situated at the Frederick Street Dock, and one "Gates Crusher" situated at the Water Works Dock, are not adequate to supply stone to meet the requirements of the Roadway branch, and also my own requirements for repairs. I would recommend the purchase of a large crusher, screen and bins, of sufficient capacity to compete with contractors, if the system of day labor is to continue. It is unreasonable to expect the Department to crush stone as quickly and economically as the contractor, with the plant that I have at my command. The crushers that we have are not of a sufficient size to permit of the reception of large stones, so that large stones have to be sledged before they can be put into the crusher for breaking. During the past year over \$1,000 was spent for sledging alone. Of course the purchase of such a crusher as mentioned would cost a considerable sum, yet it would be money well spent.

#### EASTERN STABLE FENCE.

I propose inserting in the Estimates a sum sufficient to erect a fence and sheds on the property at the Eastern Stables. At present there is no fence of any kind, and you might appreciate the position the property of the Department is in, as the carts, wagons, sweepers and water-wagons are exposed to the weather.

#### FUEL DISTRIBUTION.

Below I submit the quantity and classes of the fuel received at the different yards, also the dates that the deliveries were commenced, etc., in connection with the purchase and sale of fuel for the relief

of citizens during the winter 1902-3. The number of deliveries is an evidence of what a great undertaking it was to handle this service without interfering with the ordinary services of the Department. I do not know if there is anything that I can add to the figures mentioned here below, as they speak for themselves. As to the financial part of this account I cannot report, as that is a matter that the City Treasurer had charge of. It might be well to explain that whatever the deficiency is, it must be understood that the City had to meet the dealers' prices for the different classes of fuel.

Fuel was received at the yards between the dates mentioned :

Western Yard . . . . .	October 24, 1902 . . . . .	March 23, 1903.
Eastern Stables . . . . .	October 23, 1902 . . . . .	March 18, 1903.
Water Works Dock . . . . .	" " . . . . .	December 2, 1902.
Harbour Square . . . . .	October 25, 1902 . . . . .	December 4, 1902.
Shaftesbury Av. Yard . . . . .	November 1, 1902 . . . . .	February 11, 1903.

The number of deliveries was 11,795. In addition, 3,550 purchasers carted their own fuel, making a total of 16,342 deliveries.

The number of cars of coal and wood received was as follows :

	Coal.	Wood.
Western Yard . . . . .	131	49
Eastern Stables . . . . .	88	33
Shaftesbury Avenue Yard . . . . .	29	14
Water Works Dock . . . . .	9	10
Total . . . . .	257	106

*Coal by Boat.*

Harbour Square . . . . .	5
Water Works Dock . . . . .	3
Total . . . . .	8

*Wood.*

Simcoe Wood & Lumber Co.

	Hemlock Slabs.	Birch Slabs.	Hard Wood.	Mixed Wood.	Pine Slabs.	
Eastern Stables . . . . .	256 $\frac{27}{128}$	62 $\frac{103}{128}$	144 $\frac{114}{128}$	112 $\frac{18}{128}$	..	..
Western Yard . . . . .	253 $\frac{59}{128}$	161 $\frac{61}{128}$	368 $\frac{86}{128}$	349 $\frac{100}{128}$	12 $\frac{48}{128}$	..
Shaftesbury Ave. Yard . . . . .	9 $\frac{96}{128}$	7 $\frac{96}{128}$	40 $\frac{20}{128}$	32 $\frac{24}{128}$	..	..
Water Works Dock . . . . .	23 $\frac{64}{128}$	8	30 $\frac{64}{128}$	..	..	..
Total Cords . . . . .	542 $\frac{109}{128}$	240 $\frac{4}{128}$	585	494 $\frac{12}{128}$	12 $\frac{48}{128}$	..



	Georgian Bay Lumber Co.	P. McLeod.	Rathbun Co.	J. Clancy	M. Mansfield.	Toronto Foundry Co.
	Pine Slabs.	Hard Wood.	Pine Slabs.	Hard Wood.	Hard Wood.	Hemlock Slabs.
Eastern Stables.....	40	10 <sup>64</sup> <sub>128</sub>	295 <sup>1</sup> <sub>128</sub>	29 <sup>88</sup> <sub>128</sub>	29	.....
Western Yard.....		10	344 <sup>928</sup> <sub>128</sub>	.....	21 <sup>76</sup> <sub>128</sub>	55 <sup>32</sup> <sub>128</sub>
Shaftesbury Ave. Yard.....			205 <sup>128</sup> <sub>128</sub>	.....	20 <sup>97</sup> <sub>128</sub>	.....
Water Works Dock.....		9 <sup>32</sup> <sub>128</sub>	18 <sup>64</sup> <sub>128</sub>	.....	.....	.....
Total Cords.....	40	29 <sup>96</sup> <sub>128</sub>	863 <sup>58</sup> <sub>128</sub>	29 <sup>88</sup> <sub>128</sub>	71 <sup>45</sup> <sub>128</sub>	55 <sup>32</sup> <sub>128</sub>

Total cords, all kinds, 2,964<sup>80</sup><sub>128</sub>*Coal.*

	Green Holland & Co.	Samuel Benjamin Co.	W. Kyle.	Handy Bros.	McClure Ltd.	J. Keith.
	Welsh Coal.	Welsh Coal.	Hocking Vy. Coal.	Soft Coal.	Scotch Coal.	Anthracite Coal.
Eastern Stables.....		30	395 <sup>1000</sup> <sub>2000</sub>	25 <sup>1000</sup> <sub>2000</sub>	.....	52
Western Yard.....		34 <sup>200</sup> <sub>2000</sub>	585 <sup>1400</sup> <sub>2000</sub>	21 <sup>400</sup> <sub>2000</sub>	.....	78 <sup>800</sup> <sub>2000</sub>
Harbour Square.....	2,413 <sup>695</sup> <sub>2000</sub>	.....	.....	.....	2,400	.....
Shaftesbury Ave. Yard.....			168 <sup>1000</sup> <sub>2000</sub>	.....	.....	.....
Water Works Dock.....	1,855 <sup>540</sup> <sub>2000</sub>	.....	261 <sup>100</sup> <sub>2000</sub>	.....	.....	.....
Total tons.....	4,268 <sup>1235</sup> <sub>2000</sub>	64 <sup>200</sup> <sub>2000</sub>	1,320 <sup>1800</sup> <sub>2000</sub>	46 <sup>500</sup> <sub>2000</sub>	2,400	130 <sup>800</sup> <sub>2000</sub>

Total tons coal, all kinds, 8,230<sup>525</sup><sub>2000</sub>

The following statement shows the names of the boats, the arrival, when unloading was commenced, and when unloading was completed, both as to Scotch and Welsh coal.

## WELSH COAL.

*Bay Street.*

Boat.	Arrived.	Began Unloading.	Completed Unloading.
Lloyd Porter.....	Nov. 25th.....	Nov. 26th.....	Nov. 30th (noon.)
Banthie.....	" 28th.....	Dec. 1st.....	Dec. 5th (3 p.m.)
W. L. Drake.....	Dec. 4th.....	" 6th.....	" 11th (9 a.m.)

*Water Works.*

J. Reed.....	Nov. 25th.....	Nov. 26th.....	Dec. 3rd.
Rob Roy.....	Dec. 4th.....	Dec. 9th.....	Dec. 13th (9 a.m.)
Aberdeen.....	" 4th.....	" 6th.....	" 8th.

## SCOTCH COAL.

*Bay Street.*

Boat.	Arrived.	Began Unloading.	Completed Unloading.
Glengarry .....	Nov. 28th .....	Dec. 1st .....	Dec. 5th (3 p.m.)
Hamilton .....	Nov. 25th .....	Dec. 6th .....	Dec. 20th.

## ISLAND SCAVENGING.

The Island scavenging service began on May 4th and terminated on October 7th, during which time 460 loads of garbage and night soil were collected and consumed at the Island Destructor. I will endeavor to make arrangements to permit of extending this service in a more extensive way to Ward's Island. The difficulty that is experienced is to get to and from this section of the Island. I have given some thought to the question of doing this service with a gasoline launch, and I feel satisfied that the proper way to do this work within a short time will be by something of that kind. The water-ways that have been opened and those that are contemplated will permit of easy access to all sections. The lack of roadways makes the haulage for the horses extremely heavy, which is one reason for suggesting the use of boats. The cost of this service was \$626.65.

## ISLAND DESTROYER.

All the garbage and night soil from the Island was destroyed at this destructor. The furnace is in very fair order, but the fire clay bars will require renewing during the season. The expenditure under this heading was \$392.52.

## GRADING ISLAND STREETS.

The funds appropriated by Council were sufficient to clean up the weeds and other undergrowth on the streets at the Island, which has given them a very tidy and clean appearance much appreciated by the residents and citizens.

## ISLAND BICYCLE PATH.

This path, which was constructed in the year 1898, will require extensive repairs during the coming season. The repairs will be more extensive than heretofore, and I propose inserting a sum in the Estimates sufficient to put this path in good order.

## ISLAND SIDEWALKS.

The repairs to Island sidewalks have been carried out to the best advantage. There is a number that will require renewing in a short while. The cement walk that is laid from Manitou Avenue to Hanlan's Point is a great improvement, and is much appreciated by both residents and citizens.

# WESTERN GARBAGE CREMATORY

## CITY OF TORONTO

SCALE IN FEET.  
0 5 10

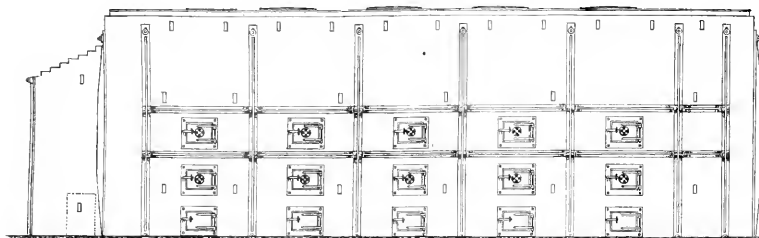


Fig. 1. Side Elevation

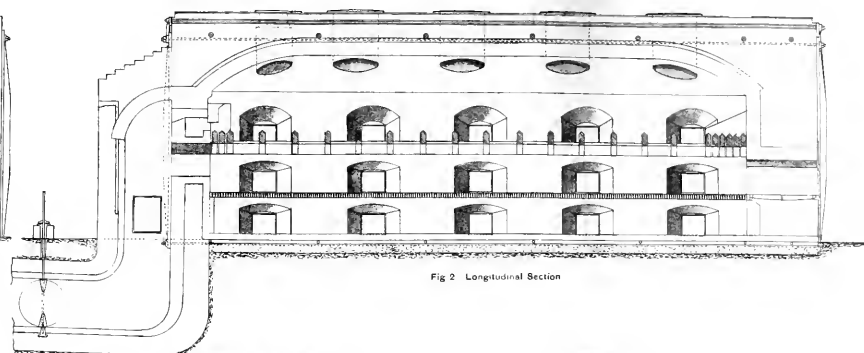


Fig. 2. Longitudinal Section

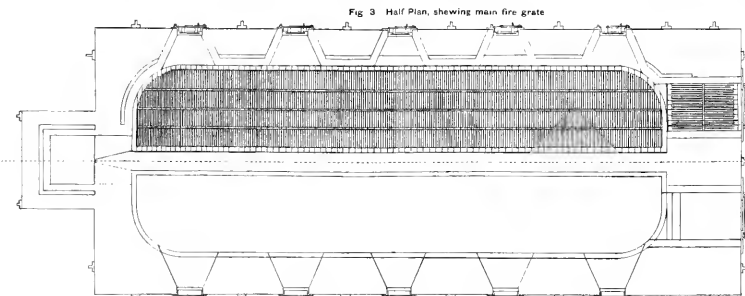


Fig. 3. Half Plan, showing main fire grate



Fig. 4. Half Plan, showing ash pit

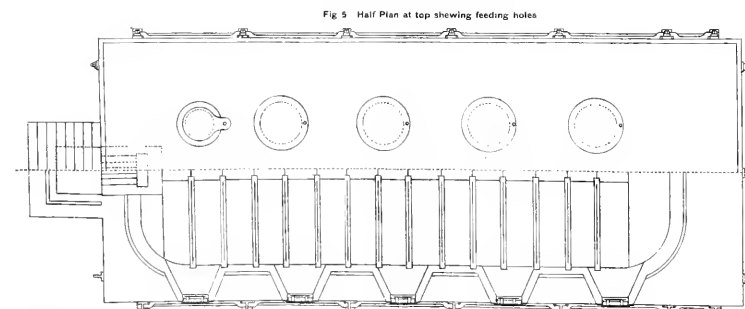


Fig. 5. Half Plan at top showing feeding holes

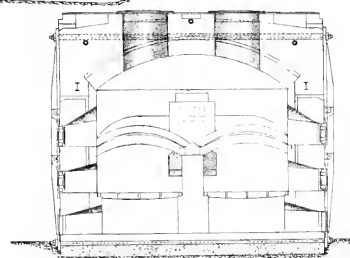


Fig. 7. Transverse Section looking to back

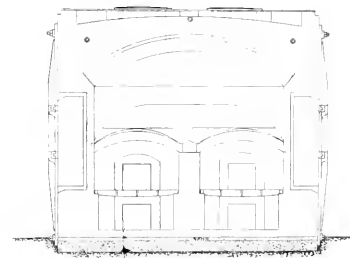


Fig. 8. Transverse Section looking to front



Fig. 6. Half Plan, showing fire clay bars

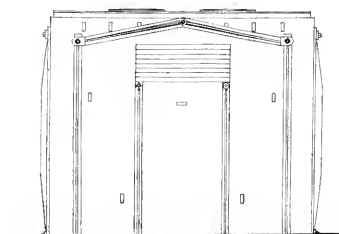


Fig. 9. Back Elevation

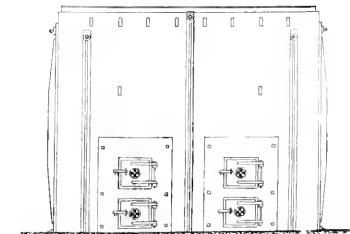


Fig. 10. Front Elevation



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### SWEEPINGS TO THE ISLAND.

Both the Island Committee and the Board of Works have given some consideration to the disposal of street sweepings, with a view to taking same to the Island for top-dressing for Island Park. To carry out this arrangement, scows of a suitable pattern will be required to be constructed and a tug purchased.

The removal of sweepings to the Island would materially assist in disposing of these collections; depots might be established for the reception of these sweepings at the Water Works dock, Bay Street dock, Frederick Street dock, etc. The original expenditure to put this into operation I do not think would be very heavy, and the advantages would more than compensate for the outlay, and in addition to getting rid of the sweepings cheaply, suitable top-dressing would be provided for Island Park.

There are many advantages in the City owning a tug of its own, as it might be used in taking coal and other supplies to the Island Pumping Station, Island Destructor, and the Island Electric Light Station, also in the transporting of lumber and supplies for repairs to the sidewalks, docks, etc.

### DESCRIPTION OF NEW WESTERN GARBAGE DESTROYER.

One of the most serious problems which every city and town of any considerable size has to contend with is the proper disposal of its waste materials classed under the general term of garbage. There are various methods employed, but at present I am only concerned with one, viz., incineration, which is the method adopted by our City.

Toronto's experience with garbage destructors began in the year 1891. They were patterned after the Mann system, some changes of his own being made by the late Mr. Emerson Coatsworth, former City Commissioner, under whose supervision they were erected, one in the east, and one in the west end of the City. A couple of years ago the destructors were placed under my department, and it was decided to thoroughly remodel the one in the west end. Prior to the time I am speaking of, I had made a somewhat close study of the incinerating system, having had occasion to visit some of the cities where this system was in operation, for the purpose of examining the various kinds of destructors in use. I noted the good points of each, and my conclusion was that a destructor could be designed

which while different from any I had seen, would combine the distinguishing advantages possessed by those of different make. Briefly stated, our new destructor is a combination of the Mann, the Thackeray, and the Dixon system. As I have already mentioned, our former destructors were built after the Mann system. The furnace was 30 feet long by 10 feet wide, and about 7 feet high. The materials to be consumed were dumped through holes in the top direct on to the fire. At the time of its construction, this destructor was considered one of the best in operation, and answered its purpose very well. There was no stench or nuisance of any kind attending its operation, and the process of incineration was thorough. Its chief drawback consisted in the fact that the refuse was dumped direct on to the burning grates, consequently every fresh charge almost extinguished the fire. As garbage usually contains a large amount of moisture, it took some time for the fire to recover, which meant just that much delay in disposing of each charge. Furthermore the sudden contraction caused by this moisture had a tendency to loosen the bricks in the crown of the furnace, and they were constantly falling out.

The Thackeray system, operated in Montreal, is similar to the Mann, except that it is built in chambers, or cells, each about 16 feet by 10 feet. It has, however, the same drawback mentioned in connection with the Mann, viz., the wet materials are dumped direct upon the fire.

The Dixon furnace is well known: it is constructed either of brick, or with a steel jacket lined with fire brick, and is usually built about 6 feet wide and of any length required. Its principal feature is a system of upper carrying bars, made of fire-clay, on which the garbage is first dried, then dumped into the furnace. I saw one of these destructors in operation at Fort Wayne, and considered it to be the best system I had so far observed. As I have already stated, our new destructor combines the best features of three systems just referred to, viz., the Mann, the Thackeray, and the Dixon, and I think I may safely assert that it is second to none on the continent for the effective disposal of all manner of waste materials, at a comparatively small cost for fuel, etc. I give below a brief description of its construction, which you will perhaps follow more readily with the lithographed copies of the plans I have had prepared.

The measurements of the furnace over all are—length, 35 feet 4 inches; width, 14 feet 6 inches; height, 12 feet 6 inches. The chamber is built of brick work two feet thick, having  $4\frac{1}{2}$  inches of fire-brick; 4-inch air space, and the remainder red brick.

FIGURE 1. Shows a side elevation of the furnace: the method of bracing; the poking holes, ash pit doors; and air openings each 6 inches by 2 inches.

FIGURE 2. Is a longitudinal section, showing interior of the furnace: ash-pits: fire and poking holes, and section of main fire bars: also section of the upper fire-clay carrying bars: and feeding holes in the crown. The crown is built of 9 inches of fire-brick and 2 inches of fire-clay pug: the remainder being red brick. In shape it is a segment of a circle. At the back of the furnace is shown over the upper grates a small opening through which evaporation from the garbage when in the drying chamber is carried along with the draft from the burning chamber into the flue or duct leading to the chimney. The flue is provided with a circular damper to increase or reduce the draft at will. The waste heat passing through the opening just referred to is sufficient to destroy all gases and effluvia generated in the upper or drying chamber. Fronting this opening is a hood formed of three upper carrying bars. At the firing end the carrying bars are clustered for a distance of 2 feet 3 inches, forming a hood, so that the garbage is carried that distance from the coal fire, preventing the fire being smothered while the materials are drying. The roof of this cluster is sloped so that nothing will lodge there.

FIGURE 3. Shows a section of the furnace at the iron grating or main fire bars with the fire brick lining of the poking holes and air spaces; and section above the ash-pit. At the front end of this view is shown the shaking grate of the coal fire bars and the first ash-pit. At the flue end it will be noticed that the centre wall, which carries the upper fire-clay bars, is run through the flue, but at a vanishing point.

FIGURE 4. Shows ash-pit and cleaning holes.

FIGURE 5. Shows feeding holes at the top of the furnace.

FIGURE 6. Is a half-plan section showing the upper carrying bars of fire-clay, and the air-duct from this part of the furnace to the flue, shown in figure 2.

FIGURE 7. Is a transverse section of the furnace, looking through the centre of the furnace to the back. This shows the poking holes, fire grates, and upper carrying bars of fire-clay resting on main centre wall of the evaporating chamber connecting with main flue: also feeding holes from the top.

FIGURE 8. Is also a transverse section of the furnace looking towards the front, showing the inside of the fire chamber, also walls, fire-bricks and air spaces.

FIGURE 9. Is a rear end elevation of the furnace showing its method of buckstays, and construction of the flue into the main duct.

FIGURE 10. Is a front elevation showing buckstays, coal fires and ash pit doors, two of each, which are set in an iron plate.

CAPACITY. The inside measurements of the furnace are: length, 29 feet 4 inches: width, 10 feet 6 inches: height, 7 feet 7 inches. In a day of 24 hours it will consume from 75 to 80 cart loads of an average weight each of 1,500 lbs., or a total of 50 tons of garbage and refuse materials of all kinds. Night soil we do not cremate, its handling and disposal being done by private contractors. I may mention that the quantity of refuse collected in our City varies somewhat according to the season of the year. Our average collections contain about 30 per cent. of garbage proper, that is kitchen waste, consisting of animal and vegetable matter, the balance being manufacturers' waste and household rubbish. In the summer season the waste from factories, stores, and such like provides the necessary fuel for operating the furnace, and very little coal is required. During the fruit season, and in winter, when the collections contain more or less moisture, about half a ton of slack is required to operate the furnace 24 hours; that is, half-ton of slack to consume 60 tons of refuse.

The residue from the materials consumed averages about 7 cub. yards every 24 hours. It is of little or no commercial value.

MAINTENANCE. Assuming that we burn half-ton of slack per day, the cost for fuel (at \$3.00 per ton) would be .....	\$ 1 50
Labor (six men at \$1.80 each per day) .....	10 80

Total per day of 24 hours .....	\$12 30
---------------------------------	---------

which represents a cost of 20 cents for every ton of refuse consumed.



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**COST OF CONSTRUCTION.** The furnace was built by day labor. The fire-bricks were supplied by the Harbison-Walker Co., of Pittsburg, and the fire-clay bars by the Stowe-Fuller Co., Cleveland, the freight on which was of course considerable. The total cost of the furnace only was \$5,000.

The chief advantages I claim for this furnace are :

Cheapness of construction.

Effectiveness in rapid and thorough combustion.

Entire absence of odor or nuisance of any kind.

Economy in operation.

Yours truly,

JOHN JONES,

*Street Commissioner.*

LIST OF PLANK SIDEWALKS CONSTRUCTED AS LOCAL IMPROVEMENTS BY STREET COMMISSIONER'S DEPARTMENT  
DURING YEAR 1963.

DISTRICT No. 1.

Street.	Side.	From	To	Width (feet)	Length (feet)	Lumber (feet)	Nails (lbs.)	Total Cost.
Ashport ....	W.	Queen .....	Pt. 200 ft. n .....	4	204	2,192	75	\$ 60 20
Brighton ....	N.	Pape .....	Pt. 310 ft. e .....	4	310	3,344	100	101 13
Cypress ....	E.	Eastern .....	Pt. 193 ft. s .....	4	193	2,075	75	55 68
Eastern ....	S.	Loring .....	Knox .....	4	352	3,776	100	99 39
Jones ....	E.	pt. 65 ft. north of Queen	N. s. D. d., thence w. 55 ft.	4	1,387	11,468	425	332 60
Kippendavie W.	Queen .....	Pt. 1,470 ft. s .....		4	1,480	15,840	450	435 92
Queen .....	N.	Kingston Road	E. City Limit ....	4	5,928½	65,311	2,225	1,790 64

DISTRICT No. 3.

Street.	Side.	From	To	Width (feet)	Length (feet)	Lumber (feet)	Nails (lbs.)	Total Cost.
Birch .....	S.	Gange .....	Pt. 455 ft. w .....	5½	455	6,865	200	\$ 211 92

DISTRICT No. 4.

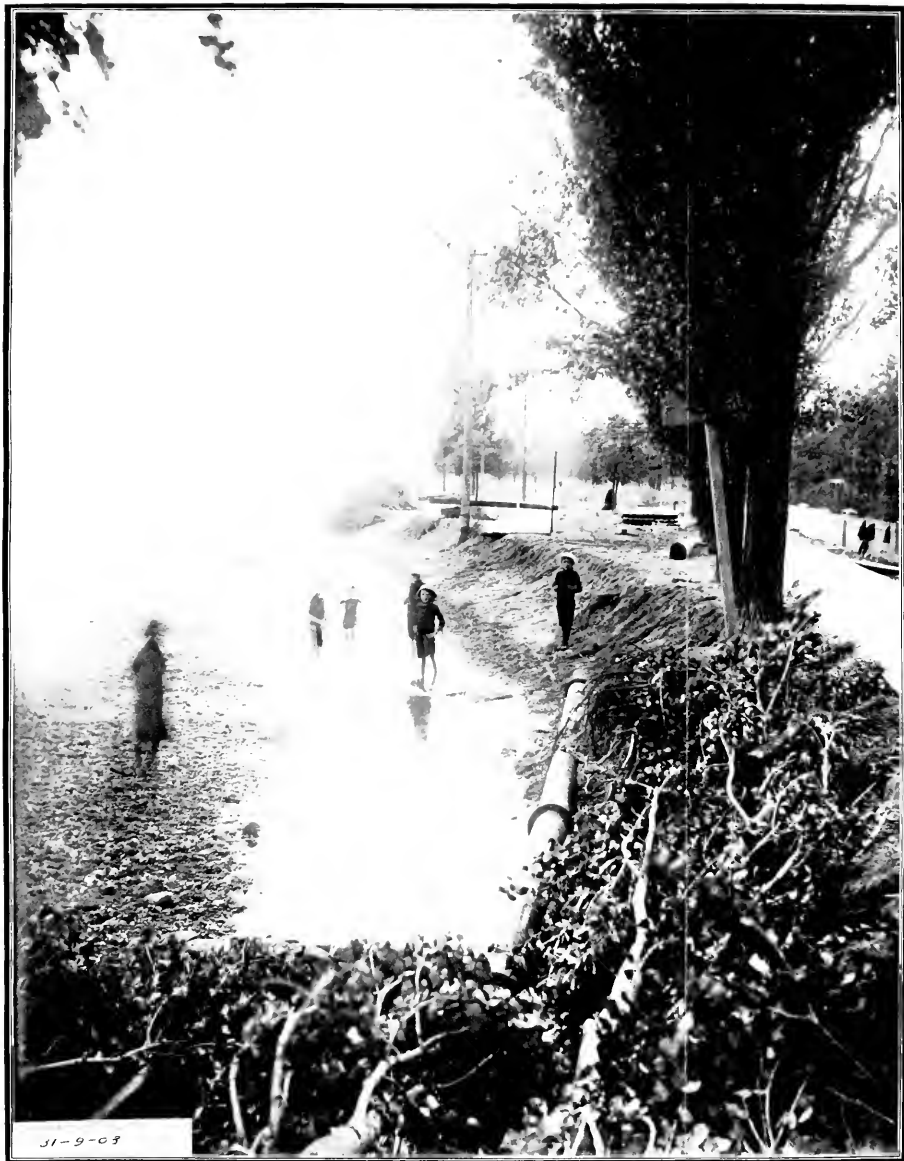
Street.	Side.	From	To	Width (feet)	Length (feet)	Lumber (feet)	Nails (lbs.)	Total Cost.
Lane, first w. of Beverly	W.	Grange .....	165 ft. n .....	3	179	1,552	100	\$ 38 95

## DISTRICT No. 5.

Street.	Side.	From	To.	Width (feet)	Length (feet)	Lumber (feet)	Nails (lbs.)	Total Cost.
Bloor .....	N..	Christie .....	Carling .....	5½	1,662	24,376	850	8 c 697 22
Clinton .....	E..	Barton .....	Yarmouth .....	5½	1,234	18,098	700	683 33
			Curbing .....			4,114		
			Spikes .....				100	
			200 posts.					
Christie ....	W..	Bloor .....	N. City Limit .....	4	2,979	32,106	1,300	751 95
(Except 131 ft. fronting Nos. 16 to 26 ; and 25 ft. at					138 & 140).			
Clinton ....	W..	Barton .....	Yarmouth .....	5½	1,234	18,107	700	781 79
			Curbing .....			4,114		
			Spikes .....				100	
			180 posts.					
Crawford ...	W..	Bloor .....	170 ft. s. ....	4	170	1,814	100	72 47
			Curbing .....			567		
			Spikes .....				15	
			28 posts.					
Dewson ....	S..	Ossington .....	160 ft. w. ....	4	160	1,717	60	39 70
Dovercourt .	W..	Hallam .....	N. City Limit .....	4	1,187	12,918	500	298 37
Euclid .....	W..	Bloor .....	Follis .....	5½	1,592	23,348	800	547 34
Givens .....	E..	Arthur .....	Pt. 200 ft n. ....	4	200	2,134	75	49 39
Hallam .....	N..	Ossington .....	Dovercourt .....	4	925	9,963	350	233 57
Jefferson ...	E..	Pt. 48 ft. south of King,	Liberty .....	4	598	6,542	250	163 08
Lennox ....	S..	Bathurst .....	Markham .....	4	290	3,091	125	128 60
			Curbing .....			967		
			Spikes .....				25	
			50 posts.					
Manning ...	E..	Bloor .....	Hammond Place ..	4	3,090	32,960	1,300	755 78
Montrose ...	W..	Bloor .....	Pt. 1,050 ft. s. ....	5½	1,050	15,400	500	600 90
			Curbing .....			3,500		
			Spikes .....				50	
			160 posts.					
Ossington ...	W..	Bloor .....	Hallam .....	4	2,243	24,398	900	678 79
Ossington ...	E..	Manchester .....	N. City Limit .....	1	1,354	14,539	575	376 16
Palmerton .	W..	Barton .....	Hammond Place ..	1	2,026	21,611	800	509 53
Pendrieth ...	N..	Christie .....	Pt. 190 ft. w. ....	4	190	5,227	200	144 57
Vermont ....	S..	Bathurst .....	Manning .....	1	1,240	13,227	500	348 96
Yarmouth ...	S..	Christie .....	" .....	1	639	7,056	250	163 23

## DISTRICT No. 6.

Street.	Side.	From	To	Width (feet)	Length (feet)	Lumber (feet)	Nails (lbs.)	Total Cost.
Bartlett	E	Hallam	Van Horne	4	938	10,052	400	<sup>s</sup> c 425 22
			Curbing			3,040		
			Spikes				25	
			116 posts.					
Bloor	S	Dufferin	Dovercourt	5½	1,512	22,206	700	535 76
Campbell	W	Wallace	Irving	4	954	11,322	400	289 18
Dufferin	E	King	Pt. 2,374 ft. s.	6	2,406	37,300	1,125	836 18
Edwin	E	Royce	Ruskin	4	1,052	11,168	350	618 17
			Curbing			3,420		
			Spikes				50	
			132 posts.					
Earnbridge	S	Strickland	Pt. 100 ft. s.	4	100	1,076	50	25 74
Edith	S	Franklin	Edwin	4	340	3,635	150	164 53
			Curbing			1,143		
			Spikes				50	
			50 posts.					
Edwin	E	Royce	Edith	4	314	3,434	150	175 60
			Curbing			1,040		
			Spikes				40	
			54 posts.					
Franklin	E	Royce	Irving	4	684	7,488	300	178 78
Gladstone	W	College	Pt. 917 ft. s.	4	923	10,783	350	270 14
Indian Road	W	Pt. 1,257 ft. s. of Howard Park Avenue	Lake Shore Road	4	2,444	28,110	1,000	714 32
		(Laid only to Fern- nagh Avenue).						
Lansdowne	E	College	Bloor	4	2,170	23,253	800	522 47
		(Except from 192	ft. north of College	to	533 ft.	further north)		
Montray	N	Dufferin	Sheridan	4	514	5,462	300	238 76
			Curbing			1,633		
			Spikes				25	
			90 posts.					
Moutray	S	Dufferin	Sheridan	4	514	5,462	300	235 09
			Curbing			1,633		
			Spikes				25	
			90 posts.					
Moutray	S	Brock	Sheridan	4	500	5,536	500	276 39
			Curbing			1,440		
			Spikes				25	
			75 posts.					
Margueretta	E	College	Pt. 667 ft. n.	4	669	7,292	300	171 19
Noble	S	Brock	Pt. 300 ft. e.	4	300	3,370	150	86 75
Northern Pl	E	Shirley	Pt. 230 ft. s.	4	232	2,778	125	82 68
Royce	S	Campbell	Perth	4	609	5,696	250	164 78
	S		Lansdowne	4	997	11,050	400	282 03
Saunders	N	Sorauren	Pt. 315 ft. e.	4	330	3,588	125	92 17
	S		" "	4	330	3,508	125	91 28
Shanley	S	Hamburg	Dovercourt	5½	1,217	18,982	500	707 63
			Curbing			4,060		
			Spikes				50	
			196 posts.					
Symington	W	Royce	Pt. 250 ft. n.	4	265	2,818	100	73 76
Salem	E	Hallam	Van Horne	4	931	10,348	350	275 00
West Lodge	W	Marion	Pt. 600 ft. n.	5½	616	9,054	300	209 31
Wallace	N	Symington	Campbell	4	339	4,128	150	97 21



ISLAND WASHOUT, SHOWING EXPOSED WATER MAIN.



# WATER WORKS.

## REPORT FOR THE YEAR ENDING DECEMBER 31st, 1903.

CITY ENGINEER'S OFFICE,

Toronto, December 31st, 1903.

### FINANCIAL.

The total expenditure for the year of the portion of the Water Works Department which is under the control of the City Engineer, amounted to \$202,823.64, divided as follows:

Maintenance.....	\$159,074 14
Construction .....	14,742 38
Renewals ...	6,502 10
Special work .....	22,505 02

The expenditure of the Revenue and Collection Branch, under the control of the City Treasurer, amounted to \$26,012.95.

### DISTRIBUTION.

The total length of mains laid during the year is 13,754½ feet, divided as follows:

2,038 feet of 12-inch cast-iron main.				
615	"	10	"	"
9,873½	"	6	"	"
1,043	"	4	"	"
185	"	2	"	galvanized iron service main.

At the end of the year the total length of mains in use was 266.955 miles.

### STOP VALVES.

Twenty-four stop valves were placed in position during the year, making a total in use of 2,409 stop-valves and 67 check-valves.

### SERVICES.

1,402 services were laid during the year.

### LEAKS ON MAINS.

The average cost of repairs to leaks on mains, exclusive of repairs to asphalt pavements, was \$5.78, and the number of leaks per mile of distribution .57, the average cost per mile being \$3.25.

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RESERVOIR.

The average depth of water in the Reservoir during the year was 17 feet, 5 inches, which represents 26,514,236 imperial gallons. We were unable to clean the Reservoir during the year, owing to the insufficiency of the conduit supply to the pumps at the Main Pumping Station.

## MAIN PUMPING STATION.

During the year the average daily consumption was 23,933,847 gallons, an increase of about 19 per cent. over the previous year. If this increase continues it will be necessary to instal an additional 15-million gallon pumping engine in the near future. Nos. 4 and 5 engines ran respectively an average of 23 hours 7 minutes, and 22 hours 31 minutes per day. Nos. 1 and 2 engines ran 16 hours 25 minutes, and 14 hours 29 minutes, respectively. These latter engines pumped about 25 per cent. of the water pumped by Nos. 4 and 5 engines. They require 65 per cent. of the coal used by Nos. 4 and 5, which pump four times as much water. The pumpage shows a total net increase of 6,968 hours over the previous year: that it was necessary to run engines 1 and 2 in order to keep up the supply and pressure, from which it will be seen that there is very little margin for contingencies.

In the first part of my report dealing with general matters, I briefly refer to the improvements required to place the Water Works System in first-class condition, and would also refer you to the general remarks in the report of the Deputy City Engineer, upon this most important matter.

Respectfully submitted,

C. H. RUST,

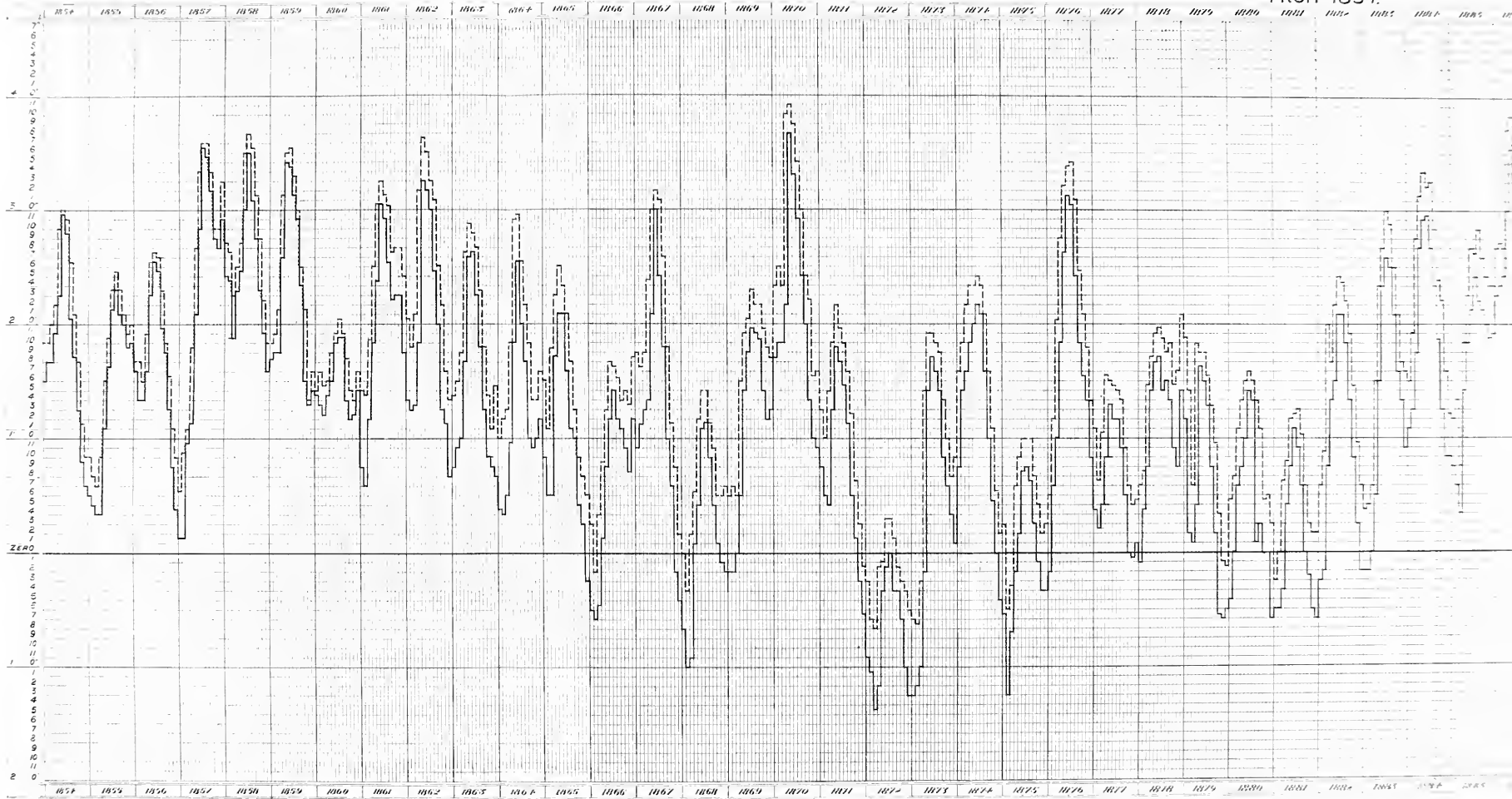
*City Engineer and Chief Engineer  
and Manager of the Water Works.*



# FLUCTUATIONS SHOWING HIGHEST AND LOWEST

WATER LEVEL MONTHLY IN LAKE ONTARIO

FROM 1854.

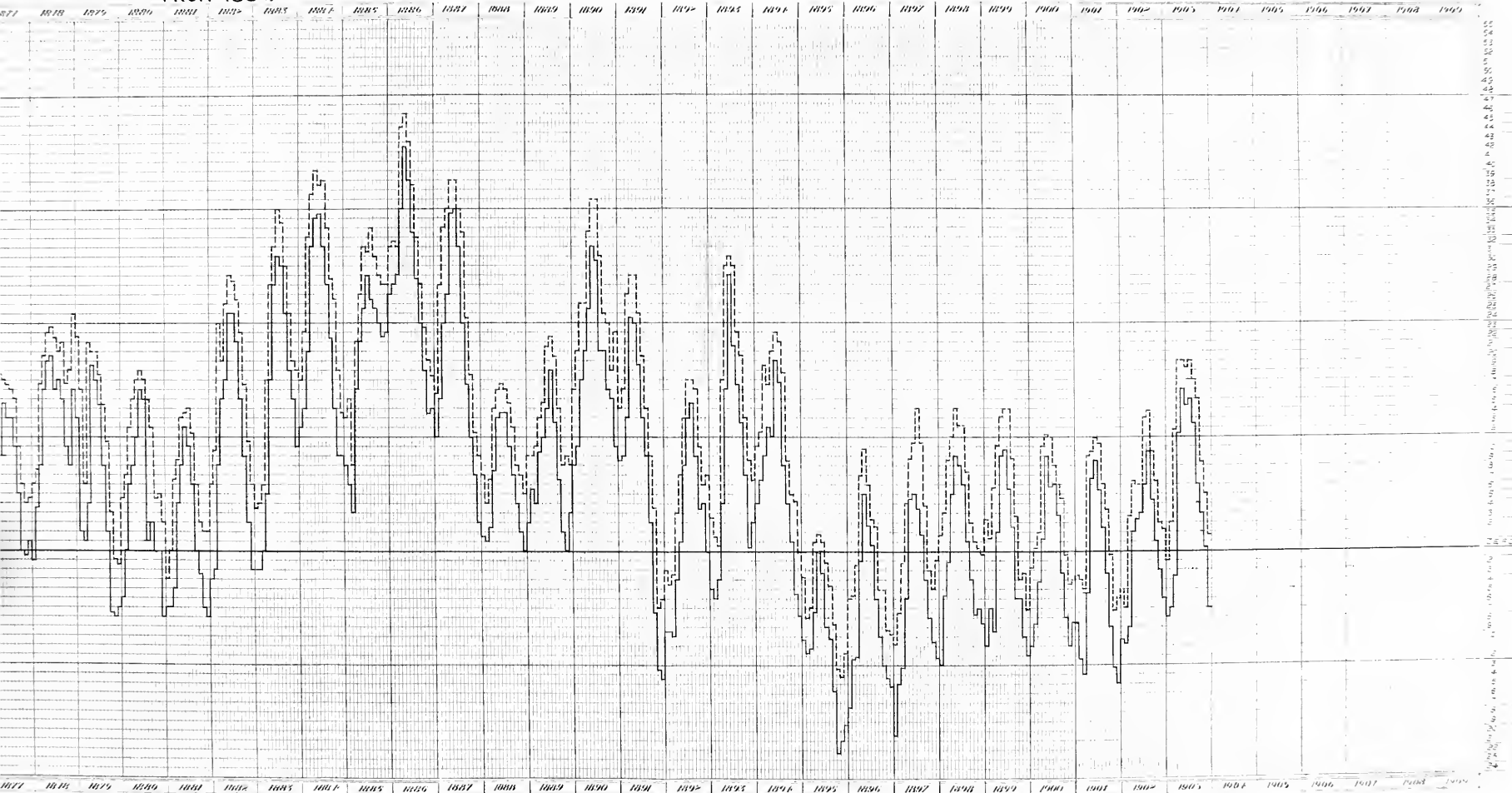


Note.

Dotted lines show highest. Black lines the lowest Water Level of Lake Ontario in each Month and Year as recorded in the Huron Commissioners' Office, Huron, except that a correction has been made by adding 4 inches to those readings since 1<sup>st</sup> Jan. 1892.

FLUCTUATIONS SHOWING HIGHEST AND LOWEST  
WATER LEVEL MONTHLY IN LAKE ONTARIO.

FROM 1854.



Report of Assistant Engineer in Charge of Water Works  
Construction, Distribution and Maintenance.

CITY ENGINEER'S DEPARTMENT,  
Toronto, December 31st, 1903.

MR. C. H. RUST,  
*City Engineer.*

WATER WORKS.

DEAR SIR,—I herewith submit the Annual Report of the Department for the year ending December 31st, 1903.

DISTRIBUTION.

13,754½ feet of mains have been laid this year, consisting of :

2,038	feet of 12-in. cast-iron main.
615	" 10-in. "
9,873½	" 6-in. "
1,043	" 4-in. "
185	" 2-in. galvanized iron service main.

13,754½ feet.

615 feet of 10-inch main on Yonge Street, through the Tannery Hollow, was abandoned, and a new main laid in its place: the old pipe being over 20 feet below the surface of the roadway, was repaired with 6-inch pipe as a temporary supply. 100 feet of 6-inch main on Indian Road was also abandoned.

At the end of the year the total length of mains in use was 266.955 miles.

STOP VALVES.

The number placed in position is as follows :

3	12-inch stop valves.
19	6-inch "
2	4-inch "

Making a total in use of 2,409 stop valves and 67 check valves.

HYDRANTS.

Fire hydrants to the number of 17 have been placed on the streets during the year, consisting of 11 3-way and 6 2-way hydrants. In addition, 3 2-way hydrants have been replaced by 4-way hydrants and 10 2-way hydrants have been replaced by 3-way hydrants.

Three private 2-way hydrants were placed in the Jno. Inglis Co's private fire main, and 1 2-way hydrant was placed in the new Cattle Market; 1 2-way hydrant was removed from off the street, leaving a total of 3,139 hydrants in use on December 31st, 1903.

The total number of services laid this year was 1,402, an increase of 83 over the number laid last year.

#### LEAKS ON MAINS.

The following leaks on mains were repaired during the year:

1	on 36-inch main.
3	" 24-inch "
82	" 12-inch "
2	" 10-inch "
3	" 8-inch "
60	" 6-inch "
3	" 4-inch "
1	" 3-inch "
<hr/>	
155	

The cost of repairs, exclusive of repairs to asphalt pavements, was \$896.24, including material used, or an average cost of \$5.78 per leak.

The average number of leaks per mile of distribution is 0.57, and the average cost per mile \$3.25.

A leak occurred on a joint of the 12-inch main on Dundas Street, beneath the embankment at the bridges, costing \$132.50 to repair it, the main at this point being about 20 feet below the surface and passing through private property for 1,000 feet, from St. Helens Avenue to Sorauren Avenue.

#### STORE HOUSE.

The general supplies for all the branches of this Department have been maintained, and the stock on hand on the 31st of December, checked.

#### STABLES.

The cost of maintaining this branch for the year was \$4,103.33. The floors and stalls of the stables at Soho Square were removed, and considerable repairs made to the Lombard Street stables, as the shed which was used for that purpose was both unsanitary, leaky and dilapidated.

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 METER AND MACHINE SHOP.

The following work was performed by this branch during the year :

	No.
New meter takers .....	112
Meters rebuilt in shop .....	251
Meters taken off for repairs .....	228
New meter boxes .....	125
New meter frames .....	29
Brick chambers built .....	9

A large number of meters have been repaired without removal from service. Reports of each have been sent to office.

General repair work has been performed for the Main, High Level, and Island Pumping Stations. Hydrants, valves, fountains, sand pump, City Hall boilers, reservoir, house service, and pipe-laying in addition to the regular work of this Department.

The blacksmiths and helper during the year have made 2,395 stop cock rods, in addition to general blacksmith work performed for the different branches of the Department.

## HYDRANTS AND VALVES.

The work of this branch for the year was as follows :

## HYDRANTS.

New leather valves .....	60
New leather joint rings .....	91
Hydrants replaced with repaired hydrants .....	65
New chain rings .....	40
Hydrant screws replaced. ....	6
Hydrant caps replaced ..	97
Hydrants frozen, blown out, pumped, packed and oiled..	520
Hydrants frozen, fired, blown out, pumped, packed and oiled .....	119
Hydrants pumped, packed and oiled .....	1,147
Hydrant inspections .....	37,604
Hydrants cleaned, repaired, tested and painted .....	91
Hydrants jacketed and tested complete.....	32
Cap leather .....	374
Chain rings repaired .....	305
Hydrants set with bar chain.....	32
Nozzles caulked .....	247
Jackets lowered .....	494
Jackets cut and replaced with short top .....	49
New jackets.....	3

Hydrant washers replaced .....	3
Hydrants packed and oiled .....	2,068
Mains blown out .....	92
New 3-way hydrant, detail work gone over and tested ..	20
Foot pipes tested .....	17
2-way hydrants replaced with 3-way hydrants .....	9
4-way hydrant nozzles expanded and die put over .....	8
Hydrant nozzles repaired with die .....	7
Hydrant packing nuts replaced .....	3

## VALVES REPAIRED.

12-inch.	6-inch.	4-inch.	3-inch.
22	141	2	5

## VALVES TESTED.

6-inch.	4-inch.	3-inch.	2-inch.	1-inch.	$\frac{3}{4}$ -inch.	$\frac{1}{2}$ -inch.	$\frac{3}{8}$ -inch.
32	12	2	65	32	1	13	3

## BRASS WORK TESTED.

## DOUBLE COCKS.

$\frac{3}{4}$ x $\frac{5}{8}$ x $\frac{1}{2}$ -inch.	$\frac{3}{8}$ x $\frac{1}{2}$ x $\frac{1}{2}$ -inch.
28	564

## SINGLE COCKS.

1-inch.	$\frac{3}{4}$ -inch.	$\frac{1}{2}$ -inch.	$\frac{1}{2}$ -inch.	$\frac{3}{8}$ -inch.
107	34	286	1,530	604

## COUPLINGS.

$\frac{1}{2}$ -inch.	$\frac{3}{8}$ -inch.
1,251	272

## SINGLE NIPPLES.

$\frac{1}{2}$ -inch.	$\frac{1}{2}$ -inch.
115	128

## DOUBLE NIPPLES.

$\frac{1}{2}$ -inch.	$\frac{1}{2}$ -inch.
98	104

## STOP COCKS.

2-inch.	1 $\frac{1}{2}$ -inch.
15	15

## RESERVOIR.

The average depth of water in the Reservoir for the year was 17 feet 5 inches, equal to an elevation of 213 feet 5 inches above zero, representing 26,514,236 imperial gallons. The lowest elevation was 209 feet 9 inches in May, and the highest 214 feet 9 inches in August and November.

It was not possible to clean the Reservoir this year owing to the insufficiency of the conduit supply to the pumps at the Main Station. As the Reservoir has to supply about 50 per cent. of all water repumped at the High Level Station, this quantity has to be obtained from the Main Station when the Reservoir is emptied.

#### HIGH LEVEL STATION.

The total quantity of water repumped during the year was 1,254,624,346 gallons, being an average of 3,437,327 gallons per day of 16 hours 30 minutes: or at the rate of 5,155,996 gallons per day of 24 hours, the pressure on the pumps averaging 54.78 lbs. per square inch. The coal consumed amounted to 1,213.98 tons, and the total cost of running the station \$10,936.56.

#### ISLAND PUMPING STATION.

The pump at this station commenced work on the 29th of April and continued till the 15th of November, the coal consumed being 120.55 tons, the cost of running the plant, including services, mains, fire hydrants and repairs to same, being \$2,277.13.

#### MAIN PUMPING STATION.

For the year the pumpage amounted to 8,738,537,335 gallons, or an average of 23,933,847 gallons per day: of this quantity 4 and 5 engines pumped 6,950,344,390, with a coal consumption of 8,898.60 tons, and 1 and 2 engines pumped 1,785,313,613 gallons with a coal consumption of 6,232.555 tons. Nos. 4 and 5 ran respectively an average of 23 hours 7 minutes and 22 hours 31 minutes per day on a coal consumption of 24.75 tons, while 1 and 2 ran 16 hours 25 minutes, and 14 hours 29 minutes a day on a consumption of 16.19 tons per day, pumping 4,891,270 gallons against 19,042,039 gallons pumped by 4 and 5 engines, that is, 1 and 2 pumped about 25 per cent. of the water pumped by 4 and 5 and took 65 per cent. of the coal used by 4 and 5 to pump 4 times as much.

This year engines 1 and 2 ran 12,052 hours.

Last	"	"	4,364	"
------	---	---	-------	---

Being an increase..	7,688	"	7,688 hours.
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Last year engines 4 and 5 ran 17,391.42 hours.

This	"	"	16,671.50	"
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Or say 720.00 hours less than last year. 720 hours.

Showing a net increase of..... 6,968 hours.

10—E

Thus it was necessary to run 1 and 2 in order to keep up the supply and pressure. It will be seen from this that there is very little margin for contingencies or accidents, and that the contract for the new 15-million gallon pumping engine made this year has not been in advance of the requirement of the station both on the score of economy, as well as a means of meeting the large and increasing demand for water.

The consumption this year has been 23,933,347 gallons per day as against 21,995,914 gallons last year. If this enormous increase, amounting to 10 per cent., continues, a duplicate 15-million gallon engine will have to be contracted for very shortly, to provide safe means of keeping up the supply.

The cost of operating the station for the year was :

Coal .....	\$54,275 93
Wages, oil, waste, repairs and materials .....	39,315 62
Or a total of.....	\$93,591 55

The 15-million gallon engine contracted for in August of this year, is a vertical triple expansion self-contained crank and fly-wheel pumping engine, specified to perform a duty test of 165 million ft. pounds per 1,000 lbs. of commercially dry steam, working against a heat equal to 100 lbs. pressure per square inch, piston speed not to exceed 200 feet per minute.

#### GENERAL.

Attention should again be drawn to the imperative necessity of proceeding with the improvements, which have been frequently recommended. If some decisive action is not soon taken, there is every danger of a shortage in the water supply occurring in the near future.

The necessity of immediately proceeding with the construction of the tunnel and conduit across the Bay and Island, is shown from the fact that during the year, with the exception of some 69 days, exclusive of Sundays, the water in the well at the Main Pumping Station has been daily (between the hours of 9 a.m. and 6 p.m.) drawn down below the level of the top of the conduit entering the well, even when the level of the lake was some inches above zero. It is evident that when the lake level falls to zero or below it, a deficiency in the water supply must result; when this happens the speed of the pumps has to be reduced, causing diminished pressure in the Main Pumping Station



district, and necessitates an increased draught on the Reservoir to keep up the supply to the High Level Station. It is only possible to deliver 2,000,000 gallons to the Reservoir at night through the existing 24-inch main, by maintaining pressure on the Main Pumping Station pumps of from 96 to 100 lbs. per square inch, therefore any draught in excess of 2-million gallons cannot be regained till the demand has fallen below that figure.

- Should the consumption increase the Reservoir will undoubtedly be emptied and the High Level District left without fire protection, if not without water for domestic purposes. To prevent this a 36-inch main has been recommended from the corner of Bathurst and College Streets, running up Bathurst Street along Dupont, past the High Level Station to the Reservoir. This main would allow of the Reservoir being filled in three or four days, providing a supply to the High Level Pumping Station at times when the Reservoir was empty, or at any time that an accident to the 24-inch main might require the shutting off of the present supply to the High Level Pumping Station; it would also enable the supply and pressure to be maintained in the down-town districts, should an accident occur to the pumping mains in the vicinity of the Main Pumping Station, requiring the shutting down of these pumps. At present we are depending on a 24 inch main laid some 25 or 26 years ago, at a time when only one 4-million gallon pump was in use, serving a population of about 70,000: to-day the population is 250,000, and the daily demand an average of 24 million gallons. Upon the installation of a second engine of 8-million gallons capacity in 1875, a 30-inch main was laid from the Station along John and Wellington Streets to Bathurst Street, and up Bathurst Street to College Street, and was connected by means of a 24-inch main laid along College Street to the 24-inch main to the Reservoir at the head of University Street. Since 1875 nothing has been done to improve the situation in this respect.

As has been stated in former reports, a very large proportion of the consumption is the result of waste, either deliberate or negligent, and some means should be taken to stop it. In the winter taps are allowed to run to prevent services freezing: this might be remedied by obtaining power to force property owners to protect their plumbing from such a danger, by requiring all plumbing for water service to pass the inspection of the Plumbing Department, as is done

with closets, baths, and drainage, with power to compel owners to protect pipes to the satisfaction of the Department. No doubt the same result could be obtained by metering all or nearly all services, with the advantage that the man who preferred to waste water instead of protecting his pipes would be paying for it.

#### TEMPERATURE OF WATER.

The average temperature for the year, taken at the City Hall tap was 46.96 degrees Fahr. The highest temperature 66 degrees Fahr. on 16th of September, and the lowest 37 degrees Fahr. on the 29th day of January.

#### MAINTENANCE OF DISTRIBUTION.

Some 6,852 complaints have been received and attended to, relating to services consisting of 2,074 leaks, 2,891 boxes dug out, 444 cleaned out, 209 services turned on, 448 turned off, 361 bursts inside discovered, and 142 false reports looked into and reported upon.

34 services have been taken out of mains, 155 leaks on mains repaired. In addition a large amount of planking done in connection with wooden sidewalks.

1,867 services have been moved to suit new sidewalks.

#### SAND PUMP.

On the 6th of April the sand pump commenced the work of completing the channel between Long Pond and St. Andrew's Avenue, which was begun last year, and finished the same about August 1st, removing 48,510 yards of material. It was then started August 4th, widening the entrance to Long Pond from Block-house Bay, which widening was completed the 22nd September, the quantity excavated being 20,930 yards.

From this point it was moved to Ashbridge's Bay to clean out the entrance to Shield's Cut, working till the 18th October, when it was moved to foot of Leslie Street and employed till the 23rd, removing deposits from mouth of sewer and the bar across the channel at this point: it then proceeded to the foot of Morse Street and Carlaw Avenue, cleaning up deposit from these sewers, after which it was moved to the Cherry Street Bridge and worked at deepening the channel until the 27th of October, when it was taken to the Ferry Co. docks at the Island to fill in behind their piling, which work took three days; it was then set to work making a

channel to the north of the Light House till the 11th of November, when it was moved to Keating's Channel to dredge out silt deposited by the Don River; it remained at this work until December 1st, when it was taken to Frederick Street dock and laid up for the winter.

#### FERRY DOCKS AT FOOT OF BAY STREET.

Three separate contracts were awarded Messrs. A. Bryce & Co. for the construction of this work, which was commenced over a year ago, and finished last fall, the cost of same being \$40,512.

The dock is constructed to take in two double-ended ferry steamers, as well as a number of small ferry boats on the outside; the berths for the double enders being U-shaped so as to enable passengers to be discharged from the ends as is done in New York and Brooklyn. The dock is wholly of timber and plank, the cribs being filled with stone.

C. L. FELLOWES,

*Deputy City Engineer.*



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SCHEDULES

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WATER WORKS DEPARTMENT

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NOTE.—For Schedule No. 1, "Cash Expenditure on Maintenance Account," etc., see page 138.  
For Schedule No. 10, "Analysis of Expenditure at Main Pumping Station," see page 140

SCHEDULE No. 2.

STATEMENT OF WATER PUMPED BY ENGINES NOS. 1 AND 2 FOR THE YEAR 1903.

Month.	No. of Days on which Engines were Working.		Number of Hours Working Each Month.		Number of Strokes for Each Engine per Month.		Quantity of Water Pumped per Month by Each Engine in Imp. Gals. Gross.		Total Quantity Pumped in Imp. Gals. Gross.	Percentage of Slip.	Total Quantity Pumped in Imp. Gals. Net.	Average Pressure on Pumps. Lbs.	Average Level of Water in Well Below Zero. Ft. In.	Total Quantity of Coal Con- sumed per Month by Nos. 1 and 2 Engines. Tons. Lbs.
			No. 1.	No. 2.										
	No. 1.	No. 2.	h. m.	h. m.	No. 1.	No. 2.	No. 1.	No. 2.	Lbs.	Ft. In.	Tons. Lbs.			
January .....	29	.....	565 15	.....	401,817	.....	91,614,276	.....	91,614,276	4	87,949,705	94.1	19 8	297 1,565
February .....	27	.....	512 20	.....	394,327	.....	89,906,556	.....	89,906,556	4	86,310,294	95.6	19 8	285 205
March .....	25	6	533 50	66 15	375,169	40,959	85,538,532	18,800,181	104,338,713	4	100,165,165	95.8	18 10	353 1,430
April .....	30	26	695 25	605 50	528,136	429,753	120,415,008	197,256,627	317,671,635	4	304,961,770	95.1	17 7	876 810
May .....	20	28	324 50	578 35	223,950	361,012	51,060,600	165,718,278	216,778,878	4	208,107,723	95.5	18 5	827 810
June .....	25	23	296 20	321 30	195,784	200,339	44,638,752	91,955,601	136,594,353	4	131,130,579	94.8	18 4	170 1,590
July .....	31	25	395 50	325 45	257,260	213,784	58,655,280	98,126,856	156,782,136	4	150,510,851	94.5	18 6	539 240
August .....	31	22	514 25	229 35	334,650	151,028	76,300,200	69,321,852	145,622,052	4	139,797,170	94.5	18 6	179 1,680
September .....	30	24	411 05	308 40	287,920	198,963	65,645,760	91,321,017	156,969,777	4	150,690,986	94.1	19 4	660
October .....	31	26	430 45	313 05	270,530	194,316	61,680,810	89,191,044	150,871,884	4	144,837,009	93.9	19 4	524 1,340
November .....	30	25	413 25	286 05	280,450	177,293	63,942,600	81,377,487	145,320,087	4	139,507,284	94.0	19 5	514 950
December .....	31	26	430 50	312 45	273,128	185,094	62,273,184	84,958,146	147,231,330	4	111,342,077	93.8	20 2	548 1,245
Totals .....	340	231	5,584 20	3,348 05	3,823,121	2,152,571	871,671,588	988,030,089	1,859,701,677	4	1,785,313,613	1,136.0	227 9	6,232 555
Monthly averages ..	28.3	23.1	465 21	262 22	318,593	179,381	72,639,299	82,335,840	154,975,139	4	148,776,134	94.66	18 11	519 713
Daily averages .....	.....	.....	16 25	14 29	.....	.....	.....	.....	5,095,073	4	4,891,270	94.66	18 11	17 149





# SCHEDULE No. 3.

## STATEMENT OF WATER PUMPED BY ENGINES NOS. 4 AND 5 FOR THE YEAR 1903.

Month.	No. of Days on which Engines were working.		Number of Hours working each Month.		Number of Strokes made by Engines each Month.		Quantity of Water Pump'd each Month by each Engine—Imperial Gallons, Gross.		Total Quantity Pumped by Nos. 4 & 5 Engines, Imp. Gallons Gross.	Percentage of Slip.	Total Quantity Pumped, Imp. Gallons Net.	Average Pressure on Pumps, Pounds.	Average Lift by Engines, Ft. In.	Total Quantity of Coal used under Boilers each Month, Tons, Lbs.
	No. 4.	No. 5.	No. 4.	No. 5.	No. 4.	No. 5.	No. 4.	No. 5.						
January .....	31	31	h. m. 739 00	h. m. 742 40	1,455,295	1,580,786	307,067,245	331,965,060	639,032,305	2	626,251,659	92.1	24 7	835 1,840
February .....	28	28	663 50	667 00	1,299,060	1,425,354	264,101,660	299,450,340	563,552,000	2	552,280,960	93.3	24 7	749 1,380
March .....	31	31	728 50	710 10	1,413,747	1,572,079	298,300,617	330,136,590	628,437,207	2	615,868,463	93.6	23 9	792 1,795
April .....	20	16	459 15	371 15	940,168	792,129	198,375,448	166,347,090	364,722,538	2	357,428,088	91.7	22 2	476 1,130
May .....	31	25	743 00	583 25	1,425,051	1,173,353	300,685,761	246,404,130	547,089,891	2	536,148,094	94.4	23 3	548 650
June .....	30	30	720 00	719 10	1,373,359	1,472,711	289,778,749	309,269,310	599,048,059	2	587,067,098	93.5	23 0	760 1,480
July .....	31	31	739 15	740 20	1,441,962	1,529,116	314,253,982	321,114,360	635,368,342	2	622,660,976	94.4	23 5	772 350
August .....	31	31	741 00	741 00	1,433,378	1,522,337	302,442,758	319,690,770	622,133,528	2	609,690,858	93.7	23 1	778 1,300
September .....	30	30	719 20	719 35	1,461,103	1,522,961	308,292,733	319,821,810	628,114,543	2	615,552,253	93.9	24 3	777 720
October .....	31	31	736 50	739 10	1,489,198	1,527,303	314,220,778	320,753,630	634,974,408	2	622,255,320	93.1	21 3	814 1,290
November .....	30	30	710 45	717 20	1,381,441	1,460,658	291,484,681	306,738,180	598,222,861	2	586,258,407	92.6	21 5	769 1,790
December .....	31	31	741 00	741 50	1,463,533	1,536,700	308,805,463	322,707,090	631,512,163	2	618,882,214	92.6	25 1	821 335
Totals .....	355	345	8,447 55	8,223 55	16,577,298	17,116,087	3,497,809,878	3,594,378,270	7,092,188,148	2	6,950,341,390	1,118.9	285 10	8,898 060
Monthly Averages ..	29.6	28.7	703 15	685 07	1,381,141	1,426,340	291,484,156	299,531,522	591,015,679	2	579,195,366	93.2	23 10	741 1,069
Daily Averages .....	.....	.....	23 07	22 31	.....	.....	.....	.....	19,433,652	2	19,012,039	93.2	23 10	24 756



# SCHEDULE No. 4.

## RECORD OF WATER RE-PUMPED AT HIGH LEVEL STATION FOR THE YEAR 1903.

Month.	Number of Hours Engines working.		Number of Revolutions made by Pumps		Quantity of Water Re-pumped.		Total Quan- tity of Water Re-pumped by both En- gines in Imp Gallons Gross.	Percentage of Ship.	Total Quan- tity of Water Re-pumped Imp. Gallons Net.	Average Pressure on Force Mains.		Average Pressure on Friction Mains.		Total Quan- tity of Coal (Consumed under Boilers.		Coal Con- sumed for Banking Fires, Raising Steam, etc.		Coal Con- sumed while Pumping.			
	No. 1.	No. 2.	No. 1.	No. 2.	No. 1.	No. 2.				Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.	Tons.
January .....	h. m. 499 25	h. m. 528 50	1,552,256	850,515	70,627,615	38,273,175	108,900,823	1	107,811,815	54.73	15.94	1,477	11	1,477	11	400	91	1,077			
February .....	418 00	476 00	1,161,511	760,149	66,408,750	34,206,705	100,705,455	1	98,698,401	54.54	15.33	96	817	10	300	86	517				
March .....	497 00	527 00	1,600,398	790,373	72,818,109	35,566,785	108,384,894	1	107,301,016	54.66	15.57	102	607	11	1,100	90	1,507				
April .....	480 00	510 00	1,557,331	704,424	70,858,697	31,699,080	102,557,777	1	101,532,200	54.59	15.37	95	282	10	1,000	84	1,282				
May .....	497 00	526 00	1,615,067	712,731	74,850,548	33,422,805	108,273,443	1	107,190,709	54.99	14.95	101	1,527	11	400	90	1,127				
June .....	481 0	509 00	1,606,319	718,105	73,087,514	32,314,725	105,402,239	1	104,348,217	54.85	15.41	99	1,412	10	1,700	88	1,742				
July .....	491 00	526 00	1,606,161	757,120	73,094,112	34,070,400	107,164,512	1	106,002,867	54.77	14.70	103	467	11	400	92	667				
August .....	496 00	527 00	1,591,215	711,615	72,400,328	32,022,675	104,423,003	1	104,378,777	54.76	15.21	101	697	11	400	90	297				
September .....	481 15	509 45	1,580,502	725,180	71,912,841	32,633,100	104,545,941	1	103,500,481	54.87	14.85	101	1,112	10	1,000	91	112				
October .....	497 00	526 00	1,642,395	741,875	74,728,972	33,384,375	108,113,347	1	107,032,214	54.83	14.84	105	1,152	11	400	94	752				
November .....	483 15	512 15	1,585,459	721,707	72,138,384	32,476,815	104,615,199	1	103,569,048	54.99	15.02	105	902	10	1,700	94	1,292				
December .....	496 00	527 00	1,596,224	701,833	72,628,192	31,582,485	104,210,677	1	103,168,571	54.77	14.81	98	1,462	10	1,700	87	1,762				
Totals .....	5,817 25	6,204 50	19,025,115	8,925,627	865,644,095	401,653,215	1,267,297,310	1	1,251,624,346	657.35	181.73	1,213	1,941	131	500	1,082	1,441				
Monthly Averages ..	487 17	517 04	1,585,345	743,802	72,137,008	33,471,101	105,608,109	1	101,552,029	54.78	15.11	101	328	10	1,875	90	453				
Daily Averages .....	16 01	16 59	52,123	21,453	2,371,627	1,100,119	3,472,047	1	3,437,327	54.78	15.14	3	651	719	2	1,332					



## COMPARATIVE STATEMENT OF COAL CONSUMED AND WATER PUMPED BY MONTHS FOR THE YEARS 1902 AND 1903.

MONTH.	1902.					1903.				
	Engine Nos.		Water.		Coal.	Engine Nos.		Water.		Coal.
	Quantity Pumped.	Total Quantity Pumped	Quantity Consumed.	Tons. Lbs.		Quantity Pumped.	Total Quantity Pumped.	Quantity Consumed.	Tons. Lbs.	
January	1 and 2 4 and 5	Imp. Gals. Net. 46,256,576 619,102,109	192 1,600 800 570	993 230	1 and 2 4 and 5	Imp. Gals. Net. 87,949,705 626,251,659	714,201,364	297 1,565 835 1,840	1,133 1,405	
February	1 and 2 4 and 5	56,187,044 570,639,955	217 890 732 110	969 1,000	1 and 2 4 and 5	86,310,294 552,280,960	638,591,254	285 205 749 1,380	1,034 1,585	
March	1 and 2 4 and 5	11,936,971 613,371,171	147 620 789 1,726	937 340	1 and 2 4 and 5	100,165,165 615,868,463	716,033,628	353 1,430 792 1,795	1,146 1,225	
April	1 and 2 4 and 5	55,633,297 572,226,415	215 115 722 1,260	937 1,375	1 and 2 4 and 5	304,964,770 357,428,088	662,392,858	876 810 476 1,130	1,352 1,940	
May	1 and 2 4 and 5	61,917,919 603,350,365	216 700 763 610	979 1,340	1 and 2 4 and 5	208,107,723 536,148,094	744,255,817	827 840 548 650	1,375 1,490	
June	1 and 2 4 and 5	58,776,446 605,415,143	204 1,030 778 130	982 1,160	1 and 2 4 and 5	131,130,579 587,067,098	718,197,677	470 1,590 760 1,480	1,231 1,070	
July	1 and 2 4 and 5	70,664,159 621,628,388	213 1,390 774 000	987 1,390	1 and 2 4 and 5	150,510,851 622,660,976	773,171,827	539 240 772 350	1,311 590	
August	1 and 2 4 and 5	64,875,082 624,277,252	213 850 797 1,570	1,011 420	1 and 2 4 and 5	139,797,470 609,690,858	749,488,028	479 1,680 778 1,300	1,258 980	
September	1 and 2 4 and 5	97,392,373 595,776,703	301 1,060 784 230	1,085 1,290	1 and 2 4 and 5	150,590,986 615,552,253	766,248,239	514 660 777 720	1,291 1,380	
October	1 and 2 4 and 5	58,708,268 614,798,419	202 960 824 1,000	1,026 1,960	1 and 2 4 and 5	144,837,009 622,255,320	767,092,320	524 1,340 814 1,290	1,339 630	
November	1 and 2 4 and 5	47,047,992 603,101,366	156 1,340 733 1,880	930 1,270	1 and 2 4 and 5	139,507,284 586,258,407	725,765,691	514 950 769 1,790	1,284 740	
December	1 and 2 4 and 5	56,491,834 631,278,081	210 690 832 1,465	1,013 155	1 and 2 4 and 5	111,312,077 618,882,214	760,224,291	548 1,245 821 335	1,369 1,580	
Totals.....		7,993,916,325	.....	11,884 1,930		8,735,658,003	.....	.....	15,030 615	
Daily average		21,901,140	.....	32 575		23,933,847	.....	.....	41 941	



SCHEDULE No. 6.  
COMPARATIVE STATEMENT SHOWING NUMBER OF GALLONS PUMPED, QUANTITY AND COST OF FUEL, ETC., FROM 1876 TO 1903, INCLUSIVE.

YEAR.	Total Water Pumped		Quantity of Fuel, Lbs.	Total Cost of Fuel.		Average Daily Quantity of Water Pumped		Average Daily Consumption of Coal.		Water Pumped per Pound of Fuel	
	Imp. Gals.	Imp. Gals.		\$	c.	Imp. Gals.	Imp. Gals.	Lbs.	Lbs.	—	Imp. Gals.
1876	1,625,139,876	6,998,282	19,645 75	232.55		4,151,292	19,093				
1877	2,633,133,932	10,107,992	25,556 29	253.02		7,214,887	28,515				
1878	1,417,370,918	8,120,000	15,196 20	174.55		3,883,208	22,216				
1879	1,610,101,512	10,872,211	19,313 07	148.09		4,111,245	29,787				
1880	1,785,859,706	11,694,808	28,455 72	152.17		4,879,422	31,953				
1881	1,910,430,419	12,391,874	31,410 01	131.18		5,234,056	33,950				
1882	2,108,933,115	11,685,556	30,170 61	180.47		5,777,899	32,015				
1883	2,809,963,184	17,266,679	13,529 08	162.74		7,938,511	47,306				
1884	3,645,112,082	19,920,782	52,525 56	183.00		9,960,221	51,428				
1885	3,537,482,598	18,644,465	46,589 27	189.73		9,691,733	51,081				
1886	4,131,376,398	19,285,371	41,979 32	211.37		11,327,060	52,837				
1887	4,117,938,169	23,283,900	50,051 85	189.71		12,403,910	63,791				
1888	4,011,964,514	20,457,935	46,600 77	197.57		11,073,875	56,049				
1889	4,118,781,631	19,231,910	44,135 10	215.72		11,365,525	52,690				
1890	5,249,760,226	31,615,830	56,239 99	212.96		14,382,901	67,536				
1891	6,207,656,403	29,300,210	60,012 77	211.86		17,007,275	80,291				
1892	6,659,925,650	34,565,875	71,895 25	193.00		18,246,371	94,278				
1893	6,616,021,488	26,013,840	64,702 86	255.17		18,208,278	71,270				
1894	6,589,492,142	26,822,115	51,902 85	215.67*		18,033,103	73,485				
1895	6,639,680,218	21,178,879	40,221 85	313.5*		18,190,902	58,024				
1896	6,781,187,980	18,606,508	25,307 90	361.4		18,297,836	50,837				
1897	6,723,757,030	20,711,250	26,880 50	321.64		18,121,253	56,713				
1898	7,136,334,102	22,100,145	27,572 00	322.91		19,551,600	60,548				
1899	7,821,318,217	24,682,935	26,684 57	316.99		21,136,569	67,024				
1900	8,061,381,595	24,118,565	38,668 51	333.95		22,091,201	66,160				
1901	8,299,298,465	26,292,610	39,402 87	341.89		22,163,831	72,034				
1902	7,993,916,325	23,769,950	39,260 22	339.15		21,901,110	61,575				
1903	8,735,658,003	30,260,415	51,275 93	288.68		23,933,309	82,900				

\* A larger percentage was allowed for ship in 1891 and 1895, than in other years.

SCHEDULE No. 7.  
QUANTITY OF WATER PUMPED AND QUANTITY CONSUMED DURING EACH MONTH OF 1903, WITH AMOUNT OF DAILY CONSUMPTION.

Month.	Total Quantity Pumped per Month in Imperial Gallons	Quantity Stored in Reservoir at end of each Month. Imperial Gallons	Quantity Consumed during each Month. Imperial Gallons	Average Daily Consumption of Water. Imperial Gallons	Average Daily Consumption of Coal at Main Pumping Station
Stored in Reservoir on 31st December, 1902.					
January .....	714,201,354	27,287,406	715,445,514	23,078,887	36 1,142
February .....	638,591,251	26,043,256	641,851,880	22,923,281	36 1,915
March .....	716,033,628	22,782,630	712,558,286	22,985,751	36 1,971
April .....	662,392,858	26,457,972	669,821,519	22,327,383	45 1,198
May .....	744,255,817	19,029,311	734,711,210	23,701,329	44 758
June .....	718,197,677	28,543,918	719,661,548	23,988,718	41 1,002
July .....	773,171,827	27,080,047	772,964,168	24,934,337	42 599
August .....	749,488,028	27,287,406	772,964,168	24,163,655	40 1,153
September .....	766,213,239	27,702,122	749,073,312	23,589,824	43 112
October .....	767,492,329	26,250,614	767,691,747	24,638,091	43 407
November .....	725,765,691	27,702,122	765,640,821	24,178,228	12 1,624
December .....	760,221,291	28,120,960	725,346,853	24,636,683	44 373
Totals .....	8,735,658,003	21,608,074	763,737,177	287,206,167	197 1,292
Averages .....	727,971,509	.....	728,211,444	23,933,847	41 911



SCHEDULE No. 8.  
COMPARATIVE STATEMENT SHOWING INCREASE OF DEPARTMENT YEARLY, 1875 TO 1903, INCLUSIVE.

Year.	Average Daily Consumption of Water.	Population.	Average Daily Consumption of Water per Capita for all Purposes.	Total Number of House Serv-ices in use in each year.	Number of House Serv-ices put in each year.	Total Number of Hoists in use in each year.	Total Number of Meters in use each year.	Total Number of Miles of Mains in use each year.	Average Pressure on Pumps.				
									No. 1, Worthington Engine.	No. 2, Worthington Engine.	No. 3, Inglis & Hunter.	No. 4, Blake Engine.	No. 5, Blake Engine.
1875	3,424,000	68,678	Gallons. 49.86	2,769	842	.....	.....	49,810	88.10	.....	.....	.....	.....
1876	4,451,202	71,693	62.09	3,512	740	.....	.....	80,250	88.78	97.51	.....	.....	.....
1877	2,812,000	67,386	41.74	4,518	1,006	.....	.....	107,576	83.33	97.69	.....	.....	.....
1878	3,883,208	70,867	54.79	6,707	2,189	28	.....	110,240	89.65	96.64	.....	.....	.....
1879	4,411,245	73,813	59.76	8,568	1,861	17	.....	111,290	95.28	99.01	.....	.....	.....
1880	4,879,422	75,110	64.96	.....	1,014	66	.....	113,312	98.22	99.52	.....	.....	.....
1881	5,231,056	76,931	68.03	12,236	2,654	79	.....	115,518	96.32	100.78	.....	.....	.....
1882	5,777,899	81,372	71.01	14,062	1,826	94	.....	116,145	94.85	101.66	.....	.....	.....
1883	7,698,511	91,796	83.87	16,276	(1,766) (448)	109	.....	131,352	91.27	105.49	.....	.....	.....
1884	9,960,224	105,211	94.66	18,363	2,087	130	.....	138,301	99.11	107.03	.....	.....	.....
1885	9,706,127	111,800	86.82	20,707	2,344	140	195	143,257	98.81	106.45	103.88	.....	.....
1886	11,344,337	118,403	93.81	23,643	2,936	152	256	156,042	104.88	104.92	104.67	.....	.....
1887	12,060,610	126,169	95.59	26,893	3,315	176	332	165,894	.....	.....	.....	.....	.....
1888	11,069,784	166,809	66.36	29,883	3,055	174	897	182,622	93.41	92.36	91.57	.....	.....
1889	11,378,962	175,000	65.02	34,056	3,288	222	1,317	212,832	91.25	91.82	94.92	.....	.....
1890	14,434,722	185,690	78.02	36,492	2,191	229	1,479	229,251	92.83	93.55	93.58	.....	.....
1891	17,007,275	188,901	90.03	38,250	2,111	230	1,541	237,967	93.33	93.66	93.91	.....	.....
1892	18,246,371	188,904	96.59	39,101	1,200	288	1,535	242,561	.....	.....	.....	.....	.....
1893	18,208,278	188,904	96.58	39,927	526	300	1,600	244,964	94.18	94.18	94.18	96.37	.....
1894	18,056,881	188,901	95.58	40,326	399	258	1,580	245,478	91.88	91.88	91.88	95.24	95.24
1895	18,192,063	190,000	95.74	40,683	357	.....	1,500	.....	91.88	91.88	91.88	95.05	95.05
1896	18,527,836	195,987	91.53	40,951	313	230	1,553	249,627	91.5	91.5	94.5	95.1	95.1
1897	18,378,722	195,987	93.77	41,315	364	230	1,553	252,616	93.4	95.1	95.1	95.7	95.7
1898	19,376,957	200,000	97.88	41,838	523	230	1,580	255,623	93.3	95.3	95.3	95.9	95.9
1899	21,436,509	225,000	95.27	42,552	714	230	1,598	257,613	94.9	94.9	94.9	95.5	95.5
1900	22,094,204	235,000	94.04	43,242	690	230	1,700	258,774	94.0	94.0	94.0	93.5	93.5
1901	22,507,266	235,000	95.77	44,275	1,033	239	1,800	260,321	93.8	93.8	93.8	93.2	93.2
1902	21,904,110	236,000	88.57	45,607	1,319	241	1,880	264,466	94.1	94.1	94.1	92.6	92.6
1903	23,933,847	245,000	93.60	48,529	1,402	241	1,844	266,955	94.6	94.6	94.6	93.2	93.2

## SCHEDULE No. 9.

RECORD OF GAUGING AT ROSEHILL RESERVOIR FOR EACH MONTH OF 1903.

Month, 1903.	Elevation of Lowest Water Above Zero.		Elevation of Highest Water Above Zero.		Average Eleva- tion Above Zero.		Average Depth in Reservoir.		Average Contents in Imperial Gallons.
	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	
January .....	212	6	214	7	213	5	17	5	26,457,972
February .....	211	5	214	2	213	1	17	1	25,628,538
March .....	212	4	214	4	213	6	17	6	26,665,331
April .....	210	4	214	4	212	11	16	11	25,217,904
May .....	209	9	214	5	212	2	16	2	23,388,414
June .....	212	7	214	7	213	11	17	11	27,702,122
July .....	212	9	214	8	213	8	17	8	27,080,047
August .....	212	10	214	9	213	11	17	11	27,702,122
September .....	211	5	214	4	212	11	16	11	25,217,904
October .....	213	5	214	8	214	..	18	..	27,909,480
November .....	213	7	214	9	214	1	18	1	28,120,960
December .....	212	8	214	8	213	8	17	8	27,080,047
Averages .....	.....	.....	.....	.....	213	5	17	5	26,514,236

NOTE.—The average depth of water in the Reservoir for the year was 17 ft. 5 in., equal to an elevation of 213 ft. 5 in. above zero.

## SCHEDULE No. 10.

## STATEMENT OF MAINS LAID DURING THE YEAR 1913.

Street, Avenue, Etc.	Side of Street.	Location.	Length in Feet.
12-IN SUB-MAINS:			
Dundas .....	E. & N.E.	From Bloor St. to Regent St.....	2,038
10-IN SUB-MAINS:			
Yonge .....	West .....	" 150 ft. s. of Roxboro' to 37 ft. n. of Belmont.....	615
6-IN SUB-MAINS:			
Beachell .....	West.....	" Eastern Av. to Front St.....	497
Beatrice .....	West.....	" 422 ft. n. of College to 253 ft. north.....	253
Bartlett Av .....	West.....	" 282 ft. n. of Shanley Av. 253 ft. n. ....	253
Bernard Av .....	North .....	" Admiral Rd. 140 ft. west.....	190
Bernard Av .....	N. and W.	" Dupont St. to Kendal Av.....	1,162½
Chestnut Park Rd.	E. and N.	" Roxborough Av. n. and e. 577 ft.....	593
Chicora Av. ....	North.....	" 680 ft. w. of Avenue Rd. 96 ft. w. ....	96
Dundas .....	East .....	" 12-in. Regent St. extension 204 ft. n. ....	204
Emerson Av. ....	West.....	" Wallace Av. 195½ ft. south .....	246½
Empress Cresc. ....	North .....	" 370 ft. e. of Dunn Av. 140 ft. east....	110
Forest Rd .....	South .....	" Yonge St. 338 ft. east to end .....	382
Gibson Av. ....	North .....	" Yonge St. 20 ft. w. to 4 in. main.....	36
Gladstone Av. ....	West.....	" 620 ft. n. of Dundas St. 374 ft. north ..	374
Hallam .....	North .....	" 186 ft. e. of Ossington Av. 325 ft. e. ....	325
Hepburn .....	North.....	" Dovercourt Rd. 182 ft. east .....	234
Kendal Av.....	West.....	" Dupont St. to 219 ft. s. of Bernard w ..	1,130½
Montrose Av.....	East .....	" 183 feet n. of College St. 518 ft. n. ....	518
Pears Av. ....	South .....	" Avenue Rd. to Bedford Rd. ....	858½
Rathmally Av .....	West.....	" 13 ft. n. of Cottingham St. extens'n n. ....	197
Regent Av. ....	South .....	" Dundas St. 567 feet west .....	615½
St. Clarens Av .....	West.....	" Wallace Av. 541 ft. north.....	563
Simpson Av.....	North.....	" 825 ft. e. of Broadview Av. 170 ft. e. ....	170
Symington Av.....	West.....	" Royce Av. 261½ ft. north .....	278
Symington Av.....	West.....	" 135 ft. s. of Royce Av. 365 ft. south.....	365
Wallace Av. ....	North .....	" St. Clarens Av. to old pipe 148 ft. e. ....	196
		Total .....	9,873½
4-IN SUB-MAINS:			
Gibson Av.....	North ..	" 20 ft. west of Yonge 314 ft. west.....	344
Hogarth Av.....	North .....	" 688 ft. east of Broadview east .....	369
McFarren's Lane ..	East .....	" Queen St. w. 151 ft. south .....	171
Soho Av.....	North.....	" Dundas St. 141 ft. east .....	159
		Total .....	1,043

## MAINS ABANDONED DURING THE YEAR 1903.

Street, Avenue, Etc.	Side of Street.	Location.	Length in Feet.
10-IN. MAIN: Yonge .....	West.....	From 150 ft. south of Roxboro' Av. to 37 ft. north of Belmont .....	615
6-IN. MAIN: Indian Rd.....	East .....	" 54 ft. north of G.T.R.R. track to 154 ft. north.....	100

*Mains throughout the City of all sizes and descriptions, including those on Streets, Government, Private and other Property, at end of the Year 1903.*

Size.	Total length in feet in use at end of 1902.	Put in during 1903.	Abandoned during 1903.	Total length in feet in use at end of 1903.
36 inch main .....	2,780	.....	.....	2,780
30-inch " .....	11,292	.....	.....	11,292
24-inch " .....	27,779	.....	.....	27,779
20 inch " .....	3,953	.....	.....	3,953
16-inch " .....	325	.....	.....	325
12 inch " .....	246,165 $\frac{3}{4}$	2,038	.....	248,203 $\frac{3}{4}$
10 inch sub-main .....	14,195	615	615	14,195
8 inch " .....	7,275	.....	.....	7,275
6 inch " .....	1,012,242 $\frac{3}{4}$	9,873 $\frac{1}{2}$	100	1,022,016 $\frac{1}{4}$
4-inch " .....	46,706 $\frac{1}{2}$	1,043	.....	47,749 $\frac{1}{2}$
3-inch " .....	10,586	.....	.....	10,586
2-inch and 1-inch service mains..	5,758 $\frac{1}{2}$	185	.....	5,943 $\frac{1}{2}$
Old 8-inch cast iron main .....	6,085	.....	.....	6,085
Old 8-inch cement main .....	1,240	.....	.....	1,240
Totals .....	1,396,383 $\frac{1}{2}$	13,754 $\frac{1}{2}$	715	1,409,423

The total length in use at end of the year—1,409,423 feet, or 266.955 miles.

## SCHEDULE No. 11.

## STATEMENT OF HYDRANTS PLACED IN POSITION DURING THE YEAR 1903.

Street, Avenue, Etc.	Side of Street.	Location.
Beachell Street ..	West .....	feet south of Eastern Avenue (3-way).
Beachell Street ..	" .....	feet north of Front Street (3-way).
Bartlett Av .....	" .....	(3-way).
Dearborne Av .....	" .....	feet east of Broadview Avenue.
Dundas Street ....	East .....	80 feet south of Conduit Street.
Dundas Street ....	" .....	Opposite south line of Regent Avenue.
Forest Rd.....	South .....	338 feet east of Yonge Street.
Indian Rd .....	East .....	49 feet north of G. T. R. tracks.
Leuty Av. ....	West .....	22 feet south of Violet Avenue.
Pears Av. ....	North .....	256 feet west of Avenue Road (3-way).
Pears Av. ....	" .....	581½ " " "
Queen's Av. ....	West .....	(4-way).
Regent Av.....	South .....	228 feet west of Dundas Street (3 way).
Regent Av.....	" .....	564 " " "
St. Clarens Av....	West .....	feet north of Wallace Avenue (3-way).
Simcoe Street ....	" .....	(3-way).
Symington Av ....	" .....	feet south of Royce Avenue (3-way).
4-WAY HYDRANTS, REPLACING 2-WAY ALREADY IN POSITION.		
James Street.....	East .....	146 feet north of Queen Street.
Queen Street W....	South .....	170 feet west of Yonge Street.
Yonge Street.....	East .....	184½ feet north of Queen Street.
3-WAY HYDRANTS, REPLACING 2-WAY ALREADY IN POSITION.		
Front Street.....	North .....	At north-east corner of Bathurst Street.
Harbord Street ..	South .....	190 feet west of St. George Street.
Louisa Street ....	" .....	At south-west corner of Teranlay Street.
Power Street ....	West .....	325 feet south of Queen Street.
Robinson Street ..	North ....	At north-west corner of Bathurst Street.
St. George Street..	East .....	10 feet south of Harbord Street.
St. George Street..	" .....	375 " " "
VanHorne Av ....	North .....	11 feet east of Hamburg Avenue.
VanHorne Av ....	" .....	15 feet east of Bartlett Avenue.
Yonge Street.....	West .....	At south-west corner of Marlborough Avenue.

3 2-way Hydrants placed on the John Inglis Co.'s main.

1 2-way Hydrant placed on New Cattle Market main.

## HYDRANT REMOVED FROM OFF THE STREET.

Indian Road, east side, 154 feet north of G. T. R. tracks.

## SUMMARY OF HYDRANTS.

Number of Hydrants of all kinds on streets at end of 1902.....	3,032
“ “ on private and other property at end of 1902 .....	87
	<hr/> 3,119
Removed from off the streets .....	1
2 way Hydrants replaced by 4-way Hydrants .....	3
2-way Hydrants replaced by 3-way Hydrants .....	10
	<hr/> 14
	<hr/> 3,105
Number of additional Hydrants set on streets during 1903 .....	17
“ “ “ “ private property, 1903 .....	4
	<hr/> 3,126
4-way Hydrants replacing those already on streets.....	3
3-way “ “ “ “ .....	10
	<hr/> 3,139
	<hr/>

## SCHEDULE No. 12.

TOTAL LIST OF ALL VALVES PLACED IN POSITION DURING THE YEAR 1903, SHEWING  
THE SIZE, POSITION, ETC.

Street, Avenue, Etc.	Side of Street.	Location.	
<b>12-IN. STOP VALVES :</b>			
Dundas .....	East .....	North line of	Bloor St.
Dundas .....	" .....	North "	Conduit St.
Royce Av .....	North .....	West "	Campbell Av.
<b>6-IN. STOP VALVES :</b>			
Beachell .....	West .....	South "	Eastern Av.
" .....	East .....	North "	Front St.
Bernard Av .....	West .....	South "	Dupont St.
" .....	North .....	West "	Kendal Av.
Chestnut Pk. Rd..	East .....	North "	Roxboro' St.
Dearbourne Av ..	North ..	East "	Broadview Av.
Dundas .....	East .....	10 ft. north of Regent Av.	
Emerson Av.....	West .....	South line of Wallace Av.	
Forest Rd .....	South .....	East "	Yonge St.
Gibson Av .....	North .....	West "	Yonge St.
Hallam .....	" .....	East "	Ossington Av.
Hepburn .....	" .....	East "	Dovercourt Rd.
Indian Rd.....	East .....	35 feet north of G.T.R. tracks.	
Kendal Av.....	West .....	South line of Dupont St.	
Pears Av .....	South .....	West "	Avenue Rd.
" .....	" .....	East "	Bedford Rd.
Regent Av.....	" .....	West "	Dundas St.
St. Clarens Av....	West .....	North "	Wallace Av.
Symington Av....	" .....	North "	Royce Av.
<b>4-IN. STOP VALVES :</b>			
McFarren's Lane.	East .....	South "	Queen St.
Soho Av .....	North .....	East "	Dundas Street.

SUMMARY OF VALVES ON STREETS AT END OF 1903.

Size and Description.	In use at end of 1902.	Put in during 1903.	Taken out dur ing 1903.	Total in use at end of 1903.
STOP VALVES :				
36 inches .....	4	.....	.....	4
30 " .....	8	.....	.....	8
24 " .....	17	.....	.....	17
20 " .....	2	.....	.....	2
12 " .....	456	3	.....	459
10 " .....	6	.....	.....	6
9 " .....	6	.....	.....	6
8 " .....	12	.....	.....	12
6 " .....	1,765	19	.....	1,784
4 " .....	80	2	.....	82
3 " .....	29	.....	.....	29
Totals.....	2,385	24	.....	2,409
CHECK VALVES.				
36 inches .....	5	.....	.....	5
30 " .....	4	.....	.....	4
24 " .....	1	.....	.....	1
20 " .....	1	.....	.....	1
12 " .....	11	.....	.....	11
6 " .....	45	.....	.....	45
Totals.....	67	.....	.....	67



## SCHEDULE No. 13.

## STATEMENT OF HOUSE SERVICES LAID DURING 1903.

Name of Street.	Size of Services.							
	$\frac{1}{2}$ -inch.	$\frac{3}{4}$ -inch.	$\frac{3}{4}$ -inch.	1-inch.	2-inch.	3-inch.	4-inch.	6-inch. 8-inch.
Arthur .....	7				1			
Albany Ave....	17	6	1					
Alexander .....	3							
Alice .....	1							
Afton Ave. ....	6							
Avenue Rd.....	1				1			
Admiral Rd.....			1					
Augusta Ave....	1							
Armstrong Ave..	1							
Adelaide E.....				2			1	
Adelaide W.....					1		1	
Argyle.....		1						
Armoury.....	2							
Ann .....	1							
Boustead Ave....	5							
Beatrice .....	20							
Bloor E. ....			2					
Bloor W. ....	2		1					
Bartlett Ave....	6			1		1		
Bathurst .....	14	1						
Bellwoods Ave..	10							
Brunswick Ave..	2	2	2					
Birch Ave .....				1				
Badgerow Ave..	4							
Bernard Ave. ...	2	2	5					
Berkeley.....	2							
Bay. ....		1						
Beatty Ave.....	1							
Belmont.....						1		
Burnfield Ave..	1							
Brock Ave. ....	7							
Brighton Ave....	1							
Brooklyn Ave....	2	1						
Brant .....			1					
Bedford Rd.....		1		1				
Bolton Ave.....	1							
Broadview Ave..	5							
Bellevue Ave....	1							
Byron Ave.....	1							
Brookfield Ave..	1							
Cluny Ave. ....			3					
College .....	12							
Claremont .....	7							
Crescent Rd.....		1	4	4	2			
Christie.....					1			

HOUSE SERVICES LAID DURING 1903—*Continued.*

Name of Street.	Size of Services.								
	$\frac{1}{8}$ -inch.	$\frac{5}{16}$ -inch.	$\frac{3}{4}$ -inch.	1-inch.	2-inch.	3-inch.	4-inch.	6-inch.	8-inch.
Close Ave. ....	5	6							
Cottingham ....	23						1		
Concord Ave. ....	12		2						
Crawford ....	12	1							
Cowan Ave. ....	5								
Churchill Ave. ....	3								
Chicora Ave. ....	2	3							
Court ....				1					
Centre Ave. ....	1								
Chestnut ....	1								
Clinton ....	2								
Campbell Ave. ....	3								
Callendar ....	1								
Carlaw Ave. ....	1								
Church ....	1								
Chapel ....	3								
Carling Ave. ....	1								
Colborne ....		1							
Czar ....					1				
Chestnut Pk. Rd. ....			1		1				
Don Esplanade ....			2	1	1		1		
Duchess ....	4								
Dufferin ....	27								
Delaware Ave. ....	33	2							
Dowling Ave. ....	4								
Dundas ....	9			2	1				
De Grassi ....	3				1			2	
Duncan ....									
Danforth Ave. ....			2	1					
Defries ....	1								
Dovercourt Rd. ....	12								
Defoe ....	1								
Dagmar Ave. ....	1								
Dewson ....	1								
Dupont ....	7	4	2						
Davies Ave. ....			1						
Davenport Rd. ....	9	1							
Dominion Ave. ....		2							
Dearbourne Ave. ....	1	2							
Dalhousie ....			1						
Exhibition ....	1								
Euclid Ave. ....	28	3	1						
Esplanade W. ....			1		1				
Ehn Ave. ....			2						
Eastern Ave. ....	5								
Empress Cres. ....	6								
Emmerson Ave. ....	1								
Essex. ....	1								

HOUSE SERVICES LAID DURING 1903—*Continued.*

Name of Street.	Size of Services.							
	$\frac{1}{2}$ -inch.	$\frac{3}{8}$ -inch.	$\frac{3}{4}$ -inch.	1-inch.	2-inch.	3-inch.	4-inch.	6-inch, 8-inch.
Elliott . . . . .	3							
Englewood Ave.	1							
Front W. . . . .			1	1				1
Front E . . . . .	1				1			
Forrest Rd. . . .	12							
Franklin Ave . .	3							
Farley Ave. . . .	2							
Fern Ave . . . .	7							
Fermanagh Ave. .					1			
First Ave . . . .	3							
Givens . . . . .	10	1						
Greenwoods Ave	9	1		2				
Gladstone Ave .	14							
Gerrard W. . . .			1					
Gerrard E. . . .	12	1	2					
Glen Rd. . . . .	2							
Grace . . . . .	2							
Golden Ave . . .	1							
Gwynne Ave . . .	1							
Galt Ave. . . . .	1							
Garden Ave . . .	4							
Gore Vale Ave .	7							
Grosvenor . . . .				1				
Havelock . . . .	8							
Huron . . . . .	2	12	2					
Hamilton . . . .	2							
Hazelwood Ave	2							
Harvard Ave . .	1	1						
Hallam . . . . .	7							
Hillcrest . . . .	5							
Hunter . . . . .	1							
Hamburg Ave . .	1							
Howland Rd. . .	4							
Howland Ave. . .	1				1			
Hogarth Ave. . .	5							
Hayden . . . . .	1			1				
Hepbourne. . . .	10							
Harrison . . . .	2							
Howie Ave. . . .	2							
Harbord . . . . .	3							
Huxley . . . . .	1							
Isabella. . . . .			1					
Jefferson Ave. .					1			
Jarvis . . . . .	5				1			
Jameson Ave . .			1					
Jones Ave . . . .	1							
King W . . . . .	1			1	2			1
Kippendavie Av.	6							

HOUSE SERVICES LAID DURING 1902—*Continued.*

Name of Street.	Size of Services.								
	$\frac{1}{2}$ -inch.	$\frac{3}{8}$ -inch.	$\frac{3}{4}$ -inch.	1-inch.	2-inch.	3-inch.	4-inch.	6-inch.	8-inch.
Kenilworth Ave.	6								
Kew Beach	1								
King E.					1				
Kendal Ave.		4	1						
Lansdowne Ave.	18								
Langley Ave.	3	1							
Logan Ave.	6			1					
Lippincott	5								
Lisgar	5	1							
Leuty Ave.	5								
Leslie	2								
Lowther Ave.			1	1					
Lombard		1							
Laburnam				1					
Laplante				1					
Manning Ave.	20	10							
Maple Ave.		1	2						
Markham	8								
Murray		1							
Muir Ave.	6								
Massey	2								
Montrose Ave.	11								
Melville Ave.	2								
Mitchell Ave.	3								
Madison Ave.			2	1					
Mill	1						1		
Morse	8								
Maitland					1				
Macpherson Ave.	8	5	1						
Melinda							1		
Margueretta	15								
Maedonell Ave.	6								
Marlboro Ave.				1					
Moutray	1								
Metcalf	1								
Marshall	2								
Millicent	2								
McGill	5								
McCaul	1		1						
McAlpine							1		
McFarren's Lane	1			1					
McGee	1								
McKenzie Cr.				1					
McMaster Ave.	1								
McDonald Sq.	1								
Nanton Cr.			1						
Noble	1								
Nelson					1				



HOUSE SERVICES LAID DURING 1903—*Continued.*

Name of Street.	Size of Services.								
	$\frac{1}{2}$ -inch.	$\frac{3}{4}$ -inch.	$\frac{3}{4}$ -inch.	1-inch.	2-inch.	3-inch.	4-inch.	5-inch.	8-inch.
Sherbourne .....			1		2				
Sherbourne(nth) .....			1						
Simpson Ave .....	13								
St. George .....				1	1				
Sackville .....	2								
Salem Ave .....	10								
Seaton .....	3								
Seaforth Ave. ..	1								
Stafford .....				1					
Sumach .....	5								
Symington Ave. ..	30								
Surrey Place .....			1						
Summerhill Ave ..	3								
Scott .....							1		
Saunders Ave .....	3								
Spencer Ave .....	6								
Spruce .....		1			1				
Sydenham .....	2		1						
Soho Ave .....	1								
St. Helen's Ave. ..	2								
Shannon .....	2								
Simcoe .....					1	1			
Teraulay .....	3								
Turner Ave .....	2								
Temperance .....			1		1		2		
Tranby Ave .....	3								
Tecumseh .....	1								
University .....								1	
Victor Ave .....	24								
Van Horne .....	2							1	
Verral Ave .....	8								
Walmer Rd .....	4	12	6						
Wilton Ave .....	6	2							
Woodlawn Ave. ....		1	2						
Westmoreland .....	1								
Walker Ave .....	3	2							
Wilcox .....			2						
Wellesley .....	1	1		1					
Wellington W. ....	1		1				1	1	
Wellington E. ....						1			
Wellington Ave. ....	1	1							
Waverley Rd .....	6								
West Marion .....	2								
Woodbine Ave. ....	3								
Woolfrey .....	1								
William .....	3								
Wickson Ave .....	3								
Withrow Ave .....	1								

HOUSE SERVICES LAID DURING 1903—*Continued.*

Name of Street.	Size of Services.							
	$\frac{1}{2}$ -inch.	$\frac{3}{4}$ -inch.	$\frac{1}{2}$ -inch.	1-inch.	2-inch.	3-inch.	4-inch.	6-inch. 8-inch.
Wells .....	1	1						
West Market ..						1		
Water .....	1							
Wyatt Ave ....	1							
Winchester ....	6							
Wallace Ave ....	1							
Woolsley .....	1							
Wyndham ....	1							
Wardell .....	1							
West Ave .....	2							
Yonge .....	10	1				1		
Yarmouth Rd ..	1							
SERVICES LAID ON ISLAND.								
Lakeshore Ave..	5							

Total number of Services laid during 1903—1,402.

## SCHEDULE No. 14.

## STATEMENT OF HOUSE SERVICES IN USE TO 31ST DECEMBER, 1903.

Total number of services in use previous to 1874	1,375
“ “ laid during 1874	552
Number of new “ 1875	842
“ renewed services laid during 1875	24
“ new “ “ 1876 by permit.	141
“ renewed “ “ 1876	12
“ new “ laid by Commission 1876	602
“ renewed “ “ “ 1876	258
“ new “ “ “ 1877	1,006
“ renewed “ “ “ 1877	161
“ new “ laid by Coporation 1878	2,189
“ renewed “ “ “ 1878	103
“ new “ “ “ 1879	1,861
“ renewed “ “ “ 1879	97
“ new “ “ “ 1880	1,014
“ renewed “ “ “ 1880	41
“ new “ “ “ 1881	2,654
“ renewed “ “ “ 1881	117
“ new “ “ “ 1882	1,826
“ renewed “ “ “ 1882	44
“ new “ “ “ 1883	1,766
“ renewed “ “ “ 1883	54
“ new “ “ “ 1884	2,087
“ renewed “ “ “ 1884	12
“ new “ “ “ 1885	2,344
“ renewed “ “ “ 1885	22
“ new “ “ “ 1886	2,936
“ renewed “ “ “ 1886	19
“ new “ “ “ 1887	3,250
“ renewed “ “ “ 1887	65
“ new “ “ “ 1888	2,990
“ renewed “ “ “ 1888	65
“ new “ “ “ 1889	3,288
“ renewed “ “ “ 1889	68
“ new “ “ “ 1890	2,136
“ renewed “ “ “ 1890	55
“ new “ “ “ 1891	2,058
“ renewed “ “ “ 1891	53
“ new “ “ “ 1892	1,151
“ renewed “ “ “ 1892	49
“ new “ “ “ 1893	526
“ renewed “ “ “ 1893	2
“ new “ “ “ 1894	390
“ renewed “ “ “ 1894	11



Number of new services laid by Corporation					1895	319
"	renewed	"	"	"	1895	38
"	new	"	"	"	1896	291
"	renewed	"	"	"	1896	45
"	new	"	"	"	1897	474
"	renewed	"	"	"	1897	29
"	new	"	"	"	1898	504
"	renewed	"	"	"	1898	32
"	new	"	"	"	1899	664
"	renewed	"	"	"	1899	35
"	new	"	"	"	1900	683
"	renewed	"	"	"	1900	26
"	new	"	"	"	1901	1,133
"	renewed	"	"	"	1901	8
"	new	"	"	"	1902	1,319
"	renewed	"	"	"	1902	13
"	new	"	"	"	1903	1,402
"	renewed	"	"	"	1903	45
New services in Yorkville at time of annexation.						448
"	"	Parkdale	"	"		885
Total number of services laid on Island						281



SCHEDULE No. 16.  
METERS TAKEN OFF AND REPLACED DURING 1903.

Month.	1/2-inch.		5/8-inch.		3/4-inch.		1-inch.		1 1/8-inch.		2-inch.		3-inch.		4-inch.		6-inch.		8-inch.		Totals.
	Off.	On.	Off.	On.	Off.	On.	Off.	On.	Off.	On.	Off.	On.	Off.	On.	Off.	On.	Off.	On.	Off.	On.	
January .....	1	1	24	18	13	7	2	2	1	.....	3	1	.....	.....	.....	.....	.....	.....	.....	.....	73
February .....	3	2	12	11	6	7	.....	.....	.....	.....	2	4	1	.....	2	.....	.....	.....	.....	.....	50
March .....	.....	1	2	2	1	4	3	1	.....	.....	6	4	2	2	1	.....	.....	.....	.....	.....	29
April .....	.....	3	7	3	5	6	3	5	1	1	.....	2	1	1	1	.....	.....	.....	1	.....	40
May .....	1	.....	7	10	4	4	4	3	.....	1	3	2	2	1	.....	.....	.....	.....	.....	.....	42
June .....	1	.....	12	10	2	3	4	1	.....	.....	3	3	1	2	.....	.....	.....	.....	.....	.....	42
July .....	1	.....	3	4	4	1	1	2	.....	.....	2	3	1	.....	2	2	.....	.....	.....	.....	26
August .....	1	.....	7	3	9	7	5	5	.....	.....	2	3	2	1	.....	1	.....	.....	.....	.....	46
September .....	.....	1	4	2	.....	.....	1	1	.....	.....	1	1	.....	1	.....	.....	.....	.....	.....	.....	12
October .....	2	1	9	7	2	4	4	3	1	.....	4	1	2	2	.....	1	.....	.....	.....	.....	43
November .....	1	.....	5	5	6	4	3	2	.....	.....	5	6	4	1	1	.....	2	1	.....	.....	46
December .....	2	.....	.....	.....	7	6	4	1	.....	.....	1	2	.....	.....	2	.....	.....	.....	.....	.....	40
Totals .....	13	9	100	82	59	53	33	27	3	2	32	32	16	11	7	5	3	1	.....	1	489

## SCHEDULE No. 17.

METERS REPAIRED WITHOUT REMOVAL FROM SERVICES DURING 1903.

Month.	$\frac{1}{2}$ -inch.	$\frac{3}{4}$ -inch.	1-inch.	1-inch.	1 $\frac{1}{2}$ -inch.	2-inch.	3-inch.	4-inch.	6-inch.	8-inch.	Totals.	New Boxes.	New Frames.	Frames and boxes repaired.
January .....	5	21	20	17	..	12	10	4	2	1	92	5	....	3
February ....	1	15	11	6	..	7	10	2	8	....	60	2	1	1
March .....	10	7	8	2	10	5	5	4	....	51	3	1	1	
April .....	2	10	17	8	2	5	4	1	3	....	52	5	....	2
May .....	....	16	15	11	1	12	8	1	....	1	65	9	1	....
June .....	1	25	19	10	3	10	10	5	7	....	90	4	2	7
July .....	1	16	9	11	4	5	5	3	5	....	59	6	4	5
August .....	3	15	6	16	1	5	7	3	3	....	59	9	4	5
September ....	1	19	17	15	....	12	7	9	2	1	83	8	4	5
October .....	3	16	18	14	1	13	5	6	4	2	82	5	....	2
November ....	2	21	18	15	....	13	3	2	4	....	78	2	1	1
December ....	2	13	10	11	1	13	10	7	5	2	74	1	4	1
Totals ....	21	197	167	142	15	117	84	48	47	7	845	59	22	33

## SCHEDULE No. 18.

SIZE AND NUMBER OF NEW METERS PLACED DURING 1903.

$\frac{1}{2}$ -inch.	$\frac{3}{4}$ -inch.	1-inch.	1-inch.	2-inch.	3-inch.	4-inch.	5-inch.	6-inch.	Total.
..	37	15	15	22	6	6	..	1	102

SCHEDULE No. 19.  
RETURN OF TEMPERATURE OF WATER FOR YEAR 1903, TAKEN AT THE SHORE CRIB  
AND CITY HALL TAP.

Month.	DEGREES FAHRENHEIT.					
	Shore Crib.			City Hall Tap.		
	Highest.	Lowest.	Average.	Highest.	Lowest.	Average.
January .....	39	34	36.80	42	37	39.65
February .....	38	34	36.17	42	37	39.58
March .....	39	35	37.29	41	38	40.15
April .....	42	38	40.	46	42	43.45
May .....	48	40	43.58	51	44	46.28
June .....	56	42	48.86	57	46	52.26
July .....	55	40	48.54	58	45	52.2
August .....	62	41	50.61	63	47	54.16
September .....	64	42	56.16	66	47	59.52
October .....	57	41	49.19	60	45	52.34
November.....	43	38	40.93	47	42	44.44
December .....	39	35	36.93	41	38	39.53
Averages of year.....	48.5	38.33	43.75	51.16	42.33	46.96

ANALYSIS OF TEMPERATURE.

*Shore Crib.*

The highest on September 16th, 64 deg.; the lowest on January 29th, 34 deg.; the highest average in September, 56.16 deg.; the lowest average in February, 36.17 deg.

*City Hall Tap.*

The highest on September 16th, 66 deg.; the lowest on January 29th, 37 deg.; the highest average in September, 59.52 deg.; the lowest average in December, 39.53 deg.

SCHEDULE No. 20.  
MAINTENANCE OF DISTRIBUTION, 1903.

	House Services.										Services Taken Out.								Leaks on Mains.								Services moved to Suit Sidewalks.
	Leaks.	Burst Inside.	False Reports.	Blown Out.	Dug Out.	Cleaned Out.	On.	Off.	Services Taken Out.								Leaks on Mains.										
									3-inch.	4-inch.	6-inch.	8-inch.	10-inch.	12-inch.	20-inch.	24-inch.	30-inch.	36-inch.	3-inch.	4-inch.	6-inch.	8-inch.	10-inch.	12-inch.	20-inch.	24-inch.	
January .....	148	38	13	26	147	90	15	69	1	1	1	1	1	1	1	1	1	1	3	1	1	5	1	1	1	1	218
February .....	163	46	10	35	215	66	17	54	1	1	1	1	1	1	1	1	1	1	3	1	1	3	1	1	1	1	233
March .....	296	49	13	16	175	40	30	52	5	1	1	1	1	1	1	1	1	1	3	1	1	12	1	1	1	1	212
April .....	182	35	16	23	152	22	16	37	1	1	1	1	1	1	1	1	1	1	4	1	1	6	1	1	1	1	255
May .....	177	29	10	30	215	20	48	37	1	1	1	1	1	1	1	1	1	1	6	1	1	8	1	1	1	1	245
June .....	168	21	10	26	273	30	10	25	3	1	1	1	1	1	1	1	1	1	1	1	1	9	1	1	1	1	212
July .....	144	32	10	20	295	35	5	13	1	1	1	1	1	1	1	1	1	1	5	1	1	4	1	1	1	1	255
August .....	166	19	13	36	338	36	13	28	2	1	1	1	1	1	1	1	1	1	5	1	1	6	1	1	1	1	245
September .....	157	18	14	24	301	20	22	19	1	1	1	1	1	1	1	1	1	1	5	1	1	6	1	1	1	1	245
October .....	179	16	8	14	326	30	11	41	1	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1	1	161
November .....	151	18	12	13	285	15	11	26	1	2	1	1	1	1	1	1	1	1	4	1	1	6	1	1	1	1	165
December .....	143	40	13	20	169	40	11	47	1	1	1	1	1	1	1	1	1	1	1	6	1	1	1	1	1	1	165
Totals .....	2,074	361	142	283	2,891	444	209	448	116	3	4	7	3	1	3	60	3	2	82	3	1	3	2	1	1	1	1,867

SCHEDULE No. 22.

STATEMENT OF QUANTITY OF WATER PUMPED, AND THE COST OF PUMPING, FIGURED ON COAL, WAGES, MAINTENANCE AND INTEREST AND SINKING FUND.

Year.	Total Water Pumped, Imp. Gallons.	Total Fuel Pounds.	Cost of Fuel.		Wages.		Total Costs, including Repairs, Fuel, Wages, etc. Main Pump Station.		Fuel, Cost per 1,000 Galls.	Fuel and Wages, Cost per 1,000 Galls.	Total Work- ing Expenses, including Collection of Revenue.		Interest and Sinking Fund		Total Cost, including Fuel, Wages, Maintenance, Interest, and Sinking Fund		Total Cost per 1,000 Galls, on same.
			£	c.	£	c.	£	c.	Cents.	Cents.	£	c.	£	c.	£	c.	Cents.
1870.	441,011,250																
1871.	509,908,250																
1872.	548,746,840																
1873.	586,230,295																
1874.	783,434,045																
1875.	1,290,706,595	5,063,262	17,156	47	5,835	95	25,886	65	1.23	1.86							
1876.	1,625,138,876	6,988,282	19,645	75	6,447	02	30,379	60	1.21	1.86							
1877.	2,633,433,932	10,407,992	25,556	29	7,866	70	36,895	23	0.97	1.40							
1878.	1,417,370,918	8,120,090	15,196	20	7,140	00	25,246	50	1.00	1.51							
1879.	1,610,104,342	10,872,211	19,313	67	7,140	00	29,827	38	1.19	1.63							
1880.	1,785,859,706	11,694,808	28,455	72	7,140	00	39,285	25	1.59	1.98							
1881.	1,910,430,419	12,391,874	31,410	04	7,173	75	42,525	22	1.64	2.03							
1882.	2,108,933,115	11,685,556	30,170	64	8,819	81	43,619	63	1.43	1.81							
1883.	2,809,956,484	17,266,679	45,529	08	10,025	72	59,809	65	1.54	1.89							
1884.	3,645,442,682	19,920,782	52,525	56	10,842	50	69,355	64	1.44	1.73							
1885.	3,357,482,598	18,644,465	46,589	57	12,017	85	65,082	39	1.31	1.64							
1886.	4,134,376,998	19,285,371	41,979	32	14,814	40	65,579	74	1.01	1.36							
1887.	4,417,938,169	23,283,900	50,651	85	16,968	79	76,597	16	1.13	1.51							
1888.	4,011,964,514	20,157,935	46,600	77	19,043	58	76,659	72	1.12	1.58							
1889.	4,148,781,634	19,231,910	44,135	10	20,192	39	75,369	77	1.06	1.51							
1890.	5,249,760,226	24,615,830	56,259	99	21,847	51	83,136	12	1.03	1.41							
1891.	6,534,375,161	29,300,240	60,012	77	22,556	19	89,060	35	0.90	1.24							
1892.	6,620,925,650	31,505,875	71,805	55	21,615	34	103,202	91	1.07	1.39							
1893.	6,616,021,188	26,013,840	61,702	86	27,078	65	100,021	75	0.97	1.37							
1894.	6,589,192,142	26,822,145	51,902	85	25,959	14	103,650	47	0.83	1.22							
1895.	6,639,680,242	19,221,85	49,221	85	23,505	19	75,502	63	0.66	1.01							
1896.	6,781,157,980	18,606,500	25,397	90	22,529	41	55,626	60	0.57	0.70							
1897.	6,723,737,030	20,711,250	26,880	50	22,933	92	57,093	55	0.39	0.73							
1898.	7,136,331,102	22,160,145	27,572	00	23,983	07	53,134	40	0.38	0.71							
1899.	7,824,318,217	24,682,955	26,651	57	24,770	51	71,279	65	0.34	0.65							
1900.	8,064,384,545	24,118,565	38,608	51	27,311	83	80,339	80	0.17	0.80							
1901.	8,299,298,165	26,272,640	39,502	56	28,295	43	78,231	31	0.17	0.81							
1902.	8,493,916,325	25,793,959	37,199	36	28,170	36	74,625	82	0.16	0.82							
1903.	8,735,658,003	30,260,615	51,275	93	31,405	90	93,591	55	0.62	0.98							





## SCHEDULE No. 21.

## LEAKS ON MAINS DURING THE YEAR 1903.

The following leaks on mains were repaired during the year :

36-inch .....	1
30-inch .....	0
24-inch .....	3
20-inch .....	0
12-inch .....	82
10-inch .....	2
8-inch .....	3
6-inch .....	60
4-inch .....	3
3-inch .....	1

Total ..... 155 of all sizes.

The total cost of repairing these leaks, exclusive of asphalt pavement repairs, was :

Labor.....	\$861 09
Material.....	35 15
Total .....	896 24

Average cost per leak (labor and material) .....	\$5 78
Average number of leaks per mile of distribution .....	0.58
Average cost per mile .....	\$3 25

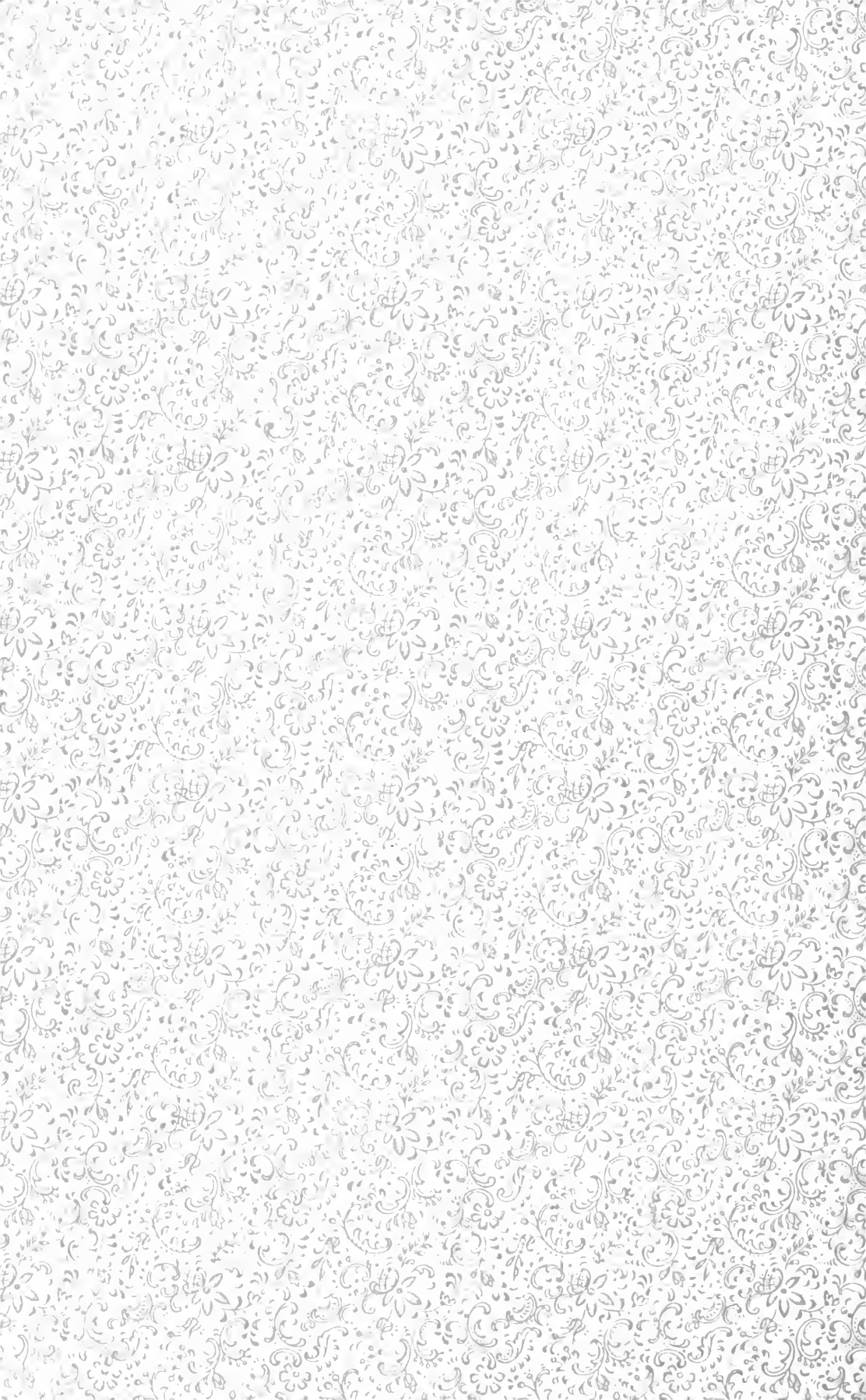
# ACCOUNTANT'S STATEMENT of EXPENDITURE FOR 1903.

ACCOUNTS.	\$	c.	\$	c.	\$	c.
GENERAL WORKS.						
Asphalt cleaning.....	21,439	20				
Bridges, repairs and maintenance.....	7,535	72				
Cleaning gullies.....	5,088	74				
Engineering and expenses.....	24,616	93				
General purpose.....	26,562	87				
Roadways.....	16,293	23				
Sidewalks.....	7,799	52				
Snow cleaning off sidewalks.....	5,619	53				
Street cleaning.....	40,387	36				
Scavenging.....	89,501	22				
Street watering.....	35,204	11				
Stone and wooden crossings.....	3,605	73				
Stone and wooden curbs.....	617	72				
Street numbering.....	552	03				
Weed cutting.....	918	11				
Private drains.....	21,062	48				
	306,804	50				
Less amount paid to City Treasurer for private drains.....	22,705	84				
			284,098	66		
SPECIAL WORKS.						
Asphalt repairs.....	16,873	01				
Drawback retained account.....	2,210	33				
Dredging slips.....	6,389	33				
Draining walls, King St. subway.....	145	05				
Don improvement, grading, etc.....	99	60				
Don Esplanade, sidewalks.....	290	99				
Dog trapping.....	157	75				
Electrical energy development.....	934	40				
Extension of Pape Ave. sewer.....	1,434	72				
Gerrard St. widening.....	1,527	35				
Harbour Square cribwork.....	24,485	91				
Island Committee works.....	7,628	52				
Northern Stables.....	380	90				
Property Committee works.....	7,171	98				
Relaying Ratcliffe Ave. sewer.....	222	63				
Rentals.....	713	00				
Repairs to City wharf, Yonge St.....	2,000	00				
Reconstruction of track allowance.....	1,063	68				
Sand pump.....	1,340	35				
Carried forward.....	75,069	50	284,098	66		

ACCOUNTS.	\$	c.	\$	c.	\$	c.
<i>Brought forward</i> . . . . .	75,069	50	284,098	66		
Street cleaning, snow . . . . .	4,752	22				
Street Railway matters . . . . .	1,351	20				
Stone for House of Industry . . . . .	435	83				
Track allowance reconstruction . . . . .	4,264	06				
Wallace Ave. storm sewer . . . . .	1	92				
Western Destructor reconstruction . . . . .	9,066	62				
“ “ maintenance . . . . .	8,004	25				
Widening lane between Gerrard St. and First Ave. . . . .	2	61				
York Street Bridge repairing . . . . .	8,191	33				
			111,139	54		
			395,238	20		
LOCAL IMPROVEMENT WORKS.						
Sewers . . . . .	21,819	50				
Pavements—						
Asphalt . . . . .	\$217,439	07				
Brick . . . . .	49,315	23				
Cedar block . . . . .	24,427	05				
Concrete . . . . .	3,032	12				
Macadam . . . . .	45,140	90				
Tar macadam . . . . .	47,383	76				
Paving block . . . . .	12,309	40				
Asphalt block . . . . .	663	40				
			399,710	93		
Sidewalks—						
Wooden . . . . .	18,705	81				
Permanent . . . . .	185,025	73				
			203,731	54		
Curbs—						
Wooden . . . . .	110	44				
Stone . . . . .	1,776	97				
			1,887	41		
			627,149	38		
Railway pavements . . . . .			38,249	49		
Bridges “ (Yonge St.) . . . . .			15	50		
Personal and departmental accounts . . . . .			30,037	83		
					1,090,690	40

ACCOUNTS.	\$	c.	\$	c.	\$	c.
<b>WATER WORKS BRANCH.</b>						
<i>Maintenance.</i>						
Maintenance of Distribution .....	25,657	50				
Main Pumping Station.....	39,315	62				
“ “ “ (coal).....	58,533	75				
Meter and machine and blacksmith's shop	13,401	53				
Hydrants and valves. ....	5,277	11				
Store house .....	1,989	39				
Reservoir .....	5,019	02				
High Level Station .....	10,936	56				
Cartage.....	4,103	33				
Miscellaneous .....	316	62				
Island Water Works.....	1,593	76				
Inspection and examination of conduit..	489	71				
	166,633	90				
Less drawback payable 1904 .....	7,559	76			159,074	14
<i>Construction.</i>						
House services .....					14,742	38
<i>Renewals.</i>						
House services .....	5,435	79				
Short lengths and extra fire hydrants....	1,065	31				
					6,502	10
<b>SPECIAL SERVICES.</b>						
<i>Expenditure to December 31st, 1903.</i>						
New tubes for boilers at Main Pumping Station .....	834	35				
New boilers at Main Pumping Station ...	2,596	00				
New meters... ..	1,374	35				
Yonge Street main, Tannery Hollow.....	1,251	07				
Soho Street stable repairs .....	327	90				
Inglis & Co., fire main balance... ..	45	04				
Stokers at Main Pumping Station . . . .	1,237	00				
New pumping engines.....	395	30				
Pears Avenue main .....	700	77				
Exhibition fire main .....	13	50				
Dundas Street 12-inch main, Bloor to Barton .....	4,626	40				
Beachell Street fire main, Eastern Avenue to Front Street.....	142	35				
Dundas Street fire main, Bloor to 2,100 feet north.....	48	00				
Mowat Avenue fire main, King Street to 400 feet south.....	2	25				
					13,594	28
Revenue Mains.....					8,910	74
Total .....					202,823	64





TA Toronto. Dept. of Public  
27 Works  
T7A2 Report of the city  
1903 engineer

Physical  
Accession  
Serial

Engineering

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